A

TREATISE

OF THE

Diſeaſe called a COLD;

Shewing its general Nature, and Cauſes; its various Species, and different Events:

Together with

Some cautionary Rules of Conduct, proper to be obſerved, in order to avoid taking this Diſeaſe, or to get ſafely rid of it when taken.

Alſo a ſhort Deſcription of the genuine Nature and Seat of the PUTRID SORE THROAT.

By JOHN CHANDLER, F.R.S.

Apothecary.

Miramur nonnullos ſcribere, Catarrhos a frigore ortos, non egere medico. Schn. de Catarrhis, lib. iv. p. 149.

Omnis fere Catarrhus debet eſſe ſuſpectus. Eſt ille interdum initium letiferi morbi——Habet vero hoc natura humana, ut Catarrhi initia, quia levia ſunt, negligat. Ibid. p. 267.

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M.DCC.LXI.

Non ſecus ac nautæ, quibus eſt vis omnis in undis,
Naufragio expoſiti ſunt propriore gradu:
Sic quoque morborum omne genus propendet in illos,
Multa quibus capitis fluxio ſemper adeſt:
Nam modo pleuriti, modo tuſſi, ſæpe cynanche,
Iliacoque malo, cœliacoque dolent:
Sæpe repentino ſpaſmo, aſthmate, ſyncope, et ori
Ventriculi morſu dilaniante gemunt.
Adde his arthritim, nephritim, tormina coli,
Adde ſpui grumos ſanguinis, adde pthyſin.
Adde ſacros morbos, epilepſiam, et incubum, et œſtrum,
Quod facit attonitos, immemoreſque ſui.
Adde alia innumera, in dentes, oculoſque, genaſque,
Aureſque, et partes quaſlibet, inde trahi.
Securus nemo eſſe poteſt, me judice, vîtæ,
Cui caput imbre madet, aſſiduoque pluit.

Gab. Ayla citatus a Schneidero, Lib. iv. p. 260.

INTRODUCTION.

WHEN one conſiders the great frequency of the diſeaſe called *a Cold*; the various ſhapes it appears in; the many inconveniencies it occaſions, together with its dangerous and often fatal conſequences; it may ſeem a little ſtrange, that no Engliſh writer, in theſe improved times, ſhould have thought it of ſufficient importance to be diſtinctly treated of.

WHOEVER ſhall carefully examine his own idea when he uſes the term, *a Cold*, will perceive that it implies a particular genus of diſeaſe, comprehending many diſtinct ſpecies, with which, at different times and in different perſons, many different parts of the body are affected; which ſpecies, although moſt of them have been conſidered ſeparately, and independantly one of another, or under ſome other general denomination of diſeaſe, have never yet been ranged, as I know of, under any one ſuch head, or peculiar definition, as to

which they could be all properly reducible: Indeed great part of what has hitherto been ſaid relating to theſe diſorders, has been either falſe, as founded in ſpeculation without knowledge of the animal ſtructure and œconomy; ſuch as the doctrine of *Rheums* and *Catarrhs*; or elſe defective, owing to the want of full comprehenſion of, or due attention to all the parts concerned; ſuch are thoſe accounts given of it which have been founded on the *Sanctorian* doctrine of perſpiration.

But what ſeems to me more eſpecially to make this ſubject deſerving a careful examination, is, that miſtakes of no ſmall conſequence, both in opinion and practice, relating to the healths and lives of the patients, are frequently made concerning it: It carries too often in its common acceptation an idea of ſome ſlight diſorder *, ſcarcely deſerving the patient's regard, and quite unworthy the phyſicians care; of a diſorder, which time and patience will wear off, or which air and exerciſe, together with, either abſtinence, or (according to the prevailing conceit in different perſons) ſome increaſed freedom of living, will carry off; or at the worſt which may at

* In vulgus quidam levis habetur, Schn. lib. iv. p. 260.

any

any time be ſweated off with whey and hartſhorn alone, or with the addition of ſome family fever powder and plague water.

It cannot be denied but that many perſons may have got rid of their colds by the mere ſtrength of nature's forces, without any medicinal regimen; ſome by a lucky, though hazardous application of one or other of the means ſpecified; and the obſervation of ſuch fortunate chances may, I ſuppoſe, be one chief reaſon why theſe complaints are ſo ſlightly accounted of. But I may truly affirm, that the preſumptuous inferences made from eſcapes of this kind, and the raſh liberties which people are too apt to take in conſequence of them, have often, though not equally attended to, the moſt fatal events, and have proved deſtructive to the lives of thouſands: The very worſt of fevers are occaſioned by the neglect or ill treatment of colds; diſorders, ſlight in their beginnings and eaſily removeable, have turned out utterly irremediable by all the powers of nature and art combined.

As it is impoſſible that falſe notions, reſpecting the nature and cauſe of a diſeaſe, can lead to the true method of treating them; as the old doctrine of *Rheums* and

Catarrhs is not even yet ſufficiently expunged, or ſuperſeded, by the eſtabliſhment of any true theory relating to diſeaſes of this kind; but, on the contrary, as theſe terms are ſtill frequently uſed by all ſuch, who are unacquainted with the later diſcoveries on this head, nót as mere denominations of ſymptoms, but as including alſo in their acceptation the eſſential cauſes of many diſeaſes, and particularly of that I am to treat concerning; I ſhall endeavour to point out their original and meaning, and to ſhew the falſe foundations on which they are built, together with the inconſiſtencies of opinion to be found among the eſpouſers of this doctrine; for until its falſehood be detected and eraſed, we cannot be ſo well prepared for receiving a true account of the nature of colds.

CHAP. I. SECT. I.

Of Rheums and Catarrhs.

SCHNEIDER * cites *Plato* as having recorded that the names of *Catarrhs* were unknown to *Homer*; that they began to be in uſe in the time of *Socrates*,

* Schneider de Catarthis, lib. iii. §. 2. c. 8.

and

and the various appearances of the diſeaſe itſelf to be taken notice of, when mankind indulged themſelves in a greater plenty and variety of foods, than their frugal and ſober anceſtors had been uſed to.

ALTHOUGH it can ſcarcely be doubted of but that diſorders of this kind muſt have now and then happened before *Homer*'s time, yet as this and all other the diſeaſes, which occurred in the earlieſt ages, were rather accidental than conſtitutional, happened but ſeldom, and conſequently were conſidered as extraordinary phænomena * ; mankind muſt neceſſarily have been for a conſiderable time deſtitute of technical names for them, as well as of art in regard to the methods of curing them, and the firſt eſſays in this art muſt have been rude and empirical, as well as often ſuperſtitious. Nor can it be wondered at if, when in after times, as the reaſon of mankind began by degrees to dilate its powers by inquiring into the nature of things ; and particularly when medicine firſt became an art, and when in its progreſs the rationaliſts, with unwearied pains, laboured to render this art ſcientific, by diſſections, and by juſt analogical in-

* Vide Celſum ſub init.

ferences,

ferences, which alone could enable them to penetrate into, and unravel the myſteries of nature's operations in the animal fabric, and to ſearch out the cauſes, manners, and effects of theſe various operations, both in health and ſickneſs: I ſay it cannot be wondered at, that at theſe firſt ſettings out they ſhould have differed in their opinions one from another, and by theſe differences have given the empiricks ſome advantages over them; although to their immortal honour it muſt be allowed them, that in ſome inſtances, at leaſt, they laid the firſt true foundations of rational ſcience in medicine; that their errors conſiſted in adopting a part of what was true for the whole, and not in the abſolute falſhood of the opinions of one or the other of them. Whoever will be at the pains to look into *Celſus*, and compare the opinions of theſe Rationaliſts, put together, concerning concoction, with the doctrine now generally aſſented to, will find an almoſt perfect coincidence. And had this direct though difficult rout to true knowledge, which was pointed out by the firſt Rationaliſts, been uniformly and ſteadily purſued by others, without deviating into the dark, though ſmoother paths of empiriciſm, or being miſguided by the falſe or uncertain lights of fanciful philoſophy, or ſeduced

by

by the love of eaſe, and the facility of playing with the paſſions of mankind to their own private advantage; it is very probable that the medical practice would have been ſooner eſtabliſhed on its only genuine and immutable baſis, *viz.* that of a true aitiology.

But when in the times of *Galen* and his followers, inſtead of purſuing this ſure and ſafe track, the wits of mankind run wild into ſpeculative controverſies, and the philoſophy of *Ariſtotle* became all in all; the baſis of medical philoſophy was alſo then laid in matter and form; the conſtitution of the animal fabric was reſolved into the four elements and their qualities, the humours and their temperaments, together with ſome refinements added of the occult qualities of innate heat, vivifying ſpirit and radical moiſture; while at the ſame time the ſolid organic parts, their connexions, actions and uſes were but little inquired into, and very imperfectly underſtood, and the myſterious doctrine of faculties was introduced to make up for the want of this knowledge.

In this ſtate of things, which, with few exceptions, continued down to within a little more than a century paſt, the ſources of almoſt

almoſt all diſeaſes were made to be contained in the humours, and the diſeaſes themſelves were frequently denominated from the ſuppoſed overflowings of this or that humour *, or quality of the humour. Hence aroſe the names of rheumatiſm, hydrops, cholera, melancholia, intemperies hot, cold, and ſuch like; and the circulation of the blood being unknown, moſt diſeaſes were accounted for by ſuppoſed fluxes and refluxes, upwards and downwards †, by expulſions, attractions, tranſitions, tranſlations, recurſions and ſucceſſions, or ſeceſſions, from one part to another, of the various humours of the body, which were imagined to reſemble the vague oppoſitions and commotions of rivers and ſeas ‡.

HOWEVER, this medical doctrine of fluxes of humours did not take its riſe from the *Galeniſts*. § *Hippocrates*, the firſt who

* Fernel Pathol. lib. i. c. 22. † Sennert. Practic. Medec. de Catarrho. ωσις, ελξις, id. de cauſ. intemp. cum materia. Αναρροια, καταρροη, μεταπλωσις, μεταστασις. παλινδρομια, διαδοχη, &c. Schn. lib. iii. c. 6.

‡ Schn. lib. i. p. 35, & alibi.

§ Οσα τ'αυ επι τους οφθαλμους τρεπεται των ρευματων, &c. Hippoc. Foeſ. de pr. med. p. 15. ροοι δε απο κεφαλης, &c. id. de Glandulis, p. 272. Αλλ' η νουσος, &c. απο καταρρυ κεφαλης, &c. επι ιερον οστεον αγων την επιρροην ο νωτιαιος, &c. id. ib. p. 275. Και τησι γυναιξιν φλεγματος επικαταρρυεντος, &c. de locis & aquis, p. 287. Οκοσοισι δ'αν τελειοισι τε, και παυ ολιγον παραρρυη, &c. de morbo ſacro, p. 306.

Sexcenta

who diſtinguiſhed medicine into a ſeparate art or profeſſion, and who lived about the ſame time with *Socrates*, abounds with it, who makes frequent mention of the name *Rheums*, *Catarrhs*, and other ſuch like, but not with intention to ſignify any eſſential difference in their meaning, but rather as ſynonymes for a fluxion of humors in general; or at moſt, by compounding, as he often does, the primitive ſubſtantive ῥοος, or the verb ῥεω, with the different prepoſitions επι κατα, δια, παρα, &c. to expreſs the mode of the Rheum or Flux, either as paſſing upon, down, through, by or to this part of the body or that. *Galen* and his followers did indeed refine upon this general doctrine, and introduced the logical diſtinctions of genus, difference, and ſpecies. They ſay that *Rheum* *, a word originally ſignifying the courſe of a quick ſtream or river, is the genus, or generical term, comprehending every flux of humour from member to member, whether upwards, downwards, or laterally, in whatever part of the body it happens; that

Sexcenta ſunt apud Hippocratem loca, quibus haberi poteſt, deſtillationem, Catarrhumve aut Rheuma eſſe communia vocabula ad omnes materiarum defluxus ad quamcunque partem fiant. Schn. lib. i. p. 12.

* Schneider, lib. i. p. 24, & paſſim. Sennerti Pract. Medicin. de Catarrho. — Fernelii Patholog. lib. v. c. 4.— Meſue de Catarrho.

every diſeaſe ariſes from a *Rheum*, but not ſo from a *Catarrh*; that *Rheum* and *Rheumatiſm* have the ſame ſignification, ſo that a rheum or flux of humors on the head, eyes, ſtomach, bowels, joints, limbs, or on the whol body, may be alſo called a Rheumatiſm of this or the other part, or of the whole; but that a *Catarrh*, according to a ſpecific ſignification of the word, was to be underſtood onely of a falling downwards of the humors from a ſuperior upon an inferior part; and generally in a ſtill more reſtrictive manner, for a defluxion or diſtillation of humor from the head on the noſtrils, mouth, gullet, windpipe, lungs and other parts.

Moreover, although the *Catarrh* was conſidered as a ſpecies in reſpect of the chief genus *Rheum*, yet upon obſerving the different outward forms under which the *Catarrh* appeared, and the different parts it fell upon, they thought fit to conſtitute this a ſubordinate genus, comprehending the ſeveral ſpecies of diſeaſed appearances, which it is now moſt uſually underſtood to ſignify. *Meſue* limits the number of theſe ſpecies to three, *viz.* the *Coryza*, *Branchus*, and *Tuſſis* *.

* De ægrit. Capitis, cap. 7.

The

THE matter of a *Catarrh* was ſuppoſed generally to come from the brain, where it was originally generated according to ſome, but as others ſay only collected and congeſted there, being conveyed from the inferior parts, by the veins and arteries, into the ventricles, according to *Galen*; according to others into other parts of the brain.

THE brain was ſaid to be of a very cold and moiſt nature, and therefore adapted to the formation of cold pituita, which was ſuppoſed to be the matter of thoſe *Catarrhs* which fell on the noſtrils and mouth: Some called it an excrementitious humor; others ſaid it was formed by a condenſation of vapours, and the * *Catarrhs* which enſued were likened to ſhowers of rain: The head was by ſome compared to the ſun, as being attractive of vapours, and Man himſelf looked on as the moſt vapoury of all animals. *Galen* reſembled a man's head to a ſmoaky houſe. Others took their compariſons from a wild cucumber †, or cupping inſtrument; from

* See Schneider, lib. ii. part 2, at large. Sennert. Inſtit. lib. ii. part 11. c. xi.

† Tam vana eſt ſimilitudo illa, tam bruta, tam fatua, ut quoque de cucurbitano capite nata videatur. Schn. lib. iv. p. 25.

a ſponge and muſhroom; and others from the head of an alembic. Each formed his opinion upon ſome prevailing conceit, either of the ſtructure, ſituation, quality, function and natural temperature of the head or brain; or of ſome diſeaſed hot or cold intemperies of this or other parts, as productive of the *Catarrh*, according to one or other of which the matter of it was ſaid to be different in its qualities; ſometimes cold and watery, at others thick, hot and ſaline; that it was alſo liable to be very differently coloured, white, black, ſaffron-coloured, red, green or yellow; that it was alſo ſometimes inodorous, ſometimes fœtid; at one time lenient and benign, and at others excoriating, according to the ſpecies of the humor and of its quality *.

They differed no leſs in their conjectures as to the paſſages and manner of conveyance of theſe catarrhous humors from the head, than they did concerning the ways in which they were generated or congeſted there. As no bounds can be put to the imaginations of men, when they ſet out to explain the phænomena of nature, without the clue of obſervations, experiments, and ſound analogy to guide them,

* Schn. lib. ii. part 1. cap. x. & paſſim.

it

it cannot be ſurpriſing if their accounts ſhould be inconſiſtent, uncertain, unintelligible, and whimſical.

It is true, that ſome anatomical inquiries were made into animal ſkulls; but then they were made in dry ſkulls, where there are many apparent apertures, which never naturally exiſt while the animal lives, ſo that the inferences made from them were neceſſarily fallacious.

Some aſſerted that the matter of a *Catarrh* might fall either from the interior or exterior parts of the head *, but others from the interior, or from the brain alone, which was indued with an expulſive faculty for this purpoſe.

Galen teaches, that the matter of *Catarrhs* being firſt carried upwards, by the veins to the head and brain, was afterwards effuſed from the veins of the dura mater; that it collected between this membrane and the ſkull, and at length diſcharged itſelf through the holes of the cribriform and ſphænoide bones †. Others thought this matter was collected between the dura and pia mater, and was carried thence

* Fernel. vol. ii. p. 134. † Schn. lib. ii. and iii. paſſim.

through

through theſe membranes to the noſtrils and mouth: Others, that it flowed through the anfractuoſities, convolutions, and cortical part of the brain: Some ſaid through the two ſinuſſes of the corpus calloſum: Some through the pituitary gland and funnel: Others through the holes of the ſella equina, and others through the mammillary proceſſes.

Some imagined it to be conveyed by the ſixth pair of nerves, or by their inveſting coats: Others by the great occipital hole, or by the vertebral holes, from whence the nerves iſſue: Some by latent ducts or pores: Others (who derived it from the outſide) by the void unconnected ſpaces under the ſkin, from whence it fell on the muſcles and vertebræ: Others by the continuity of the muſcles themſelves, and others by the ſpinal marrow.

Then as to the particular diſeaſes contingent on this defluxion; when it was imagined to fall on the ſpinal marrow, it was ſaid, that by the matters ruſhing in upon, and lodging in the marrow, or in the nerves iſſuing from it, apoplexies, palſies, ſpaſms, tremors, and ſtupors, took their riſe *, that if it fell from the nerves

* Fernel. vol. ii. p. 134.

on

on the muſcles, it occaſioned pains and lameneſſes; if on the articulations of the vertebræ or limbs, gibboſities, or arthritic complaints enſued; that the three ſpecies of this laſt diſeaſe, viz. *Podagra*, *Cheiragra*, and *Sciatica*, were all produced by *Catarrhs* from the head conveyed through this marrow *.

It was ſaid by ſome that all hot intemperies of the liver, and cold intemperies of the ſtomach, were cauſed by, or, as others ſaid, did themſelves cauſe defluxions from the brain †; but that, if this defluxion fell upon the fleſhy parts, or void ſpaces betwixt the ſkin and muſcles, it cauſed an anaſarca; if on the thorax, a phtiſis; if on the marrow, a waſting conſumption; if on the belly, a looſeneſs ‡; if on the kidnies and bladder, pains, ſtranguries, ſuppreſſions of urine and calculous diſorders; if on the ſhoulder blades, on the muſcles of the neck or back, or on the articulations in general, pains in the joints, and many varieties of arthritic complaints were obſerved to follow. If it fell on the

* Schn. lib. ii. p. 435. Lib. iii. p. 216. Fern. vol. ii. p. 135.

† Schn. lib. iv. p. 97.

‡ Schn. lib. i. p. 49. 109. 122, 123. 128. Lib. iii. p. 226. Lib. iv. p. 26. 189. Meſue de Catarrho.—Lomm. medec. obſ. p. 132. 138. 148.

eyes,

eyes, it occaſioned cold or hot rheums, or opthalmies; if on the noſtrils, a coryza; if on the frontal ſinuſſes, a gravedo; if on the fauces, the diſorder was called peculiarly catarrh; if on the trachea, branchus, or hoarſneſs and cough; on the larynx, angina; on the lungs, cough, aſthma, peripneumony; and, laſtly, if on the pleura, a Pleuriſy.

CHAP. I. SECT. II.

Obſervations on the doctrine of Rheums *and* Catarrhs.

ALTHOUGH fluxions of humors, whether natural or preternatural, may, in a ſenſe preſently to be explained, be admitted as a true doctrine, yet in the way in which this ſubject has been treated by the *Galenic* writers, it is in great meaſure falſe; for the now well known ſyſtems of veſſels and laws of circulation will not admit any ſuch vague eſcapes of the humors from the veſſels, or their floating from part to part, as was imagined by them *.

THE materials of all the natural humors, excepting what is derived from the

* Fernel. vol. ii. p. 134.

mother,

mother, are contained originally in the chyle, and with it carried into, and aſſimilated with the general maſs of blood *, which maſs is coerced within the bounds, and ſubjected to the order and courſe of one common appointed circulation, by the arteries and veins, to and from the heart; therefore no humor or humors, ſpecifically and ſeparately conſidered, can ever † *flow out and eſcape from the maſs, of themſelves*, either *from their redundance, liquefaction or agitation; or by any impulſion from the ſtrength of the part; or from cold or other external force; or by any diſpoſition of parts to receive or attract*, without a breach of continuity ‡, or without forming ſuch a collection and tumor in the part or parts, where the efflux happens, as, if ſuch part be in view, will be manifeſt ||, and require to be diſcharged by puncture outwards; but all ſuch humors, when concocted and fitted for ſeparation, are ſecreted off from the maſs in the order-

* Supponimus alimentum prius ore maſticari, deinde ventriculo alterari & converti in chylum, inſuperque chylum deferri ad jecur, (*ad pulmones*) ubi etiam alteratur, & in ſanguinem; hoc eſt totam maſſam ſanguinariam, quæ continet omnes humores, convertitur. Quod commune valde eſt, & receptam apud omnes medicos. Villa Corte Diſp. 1. Cap. 4. p. 62. Schneid. Vol. iv. p. 50.

† Effluit et excidit Fernel. Vol. i. p. 387. Sennerti Inſtit. Vol. i. p. 265-8.

‡ Boerh. Aph. 1228.

|| As in the caſe of an aſcites.

ly courſe of circulation, by particular organs deſtined for that purpoſe, and in no other way: nor can any part of the maſs, in its compounded and aſſimilated ſtate, extravaſate, unleſs in the way of perſpiration, without forming an abſceſs in the void ſpaces, where it is ſuppoſed to be lodged.

The maſs of blood may be preternaturally contaminated with a vitious fomes from the birth, ex traduce; or afterwards, by infectious miaſmata: In this caſe the vitious particles circulating in the general maſs, may obſtruct in the chyliferous, ſanguiferous, lymphatic, ſerous, or other veſſels of this or that part; the ſituation, figures and capacities of whoſe orifices and tubes are moſt expoſed, and adapted to admit and entertain them, and at the ſame time incapacitated from tranſmitting them farther on: They may diſcolour and tumefy, or erode and ulcerate the part or parts they fix in; and, from the conſideration of ſuch part or parts being cutaneous, glandular, or otherwiſe, as well as from the various manners in which they are affected, and the appearances of the matter excreted or putrefied, will give the denomination of a ſcorbutic, ſcrophulous, cancerous, variolous, venereal, or other ſpecific diſeaſe.

THE natural juices may be faulty in their craſes or qualities: They may be either defective in, or may abound with ſalts or oils, earth or water, from errors in the uſe of the nonnaturals: Or their faultineſs may be owing either to diſproportions in the reſpective magnitudes and number, or to ſome particular fabrick and diſpoſition of the ſeveral organs deſtined to the ſecretion of the ſeveral natural humors, ſuch as the liver, pancreas, mucoſe glands, *&c.* or to the relative weakneſs of one or other of theſe organs: Or laſtly, there may be an exceſs in quantity of the maſs of humors. From which mentioned circumſtances, ſimply or connected, the maſs may be depraved; this or that juice may be redundant, or be preternaturally combined, ſo as to vitiate the texture of the blood, and hereby occaſion obſtructions or extravaſations, appearing in the form of efflorescencies, exanthemata, local tumors, veſications, pains, fevers, inflammations, hæmorrhages, impoſthumations, abſceſſes and the like.

IN either of the caſes mentioned, whether of preternatural contamination, or other faultineſs in quantity or quality, the maſs of juices may turgeſce, or irritate,

from exuberance or acrimony in the vaſcular ſyſtem; and theſe juices, by ſtimulation, or by puſhing againſt weak or ſtraitned parts *; by making efforts here and there to break through and ſettle, and by being impelled or repulſed from one part to another, either by the recovered ſpring of the capillary arteries and lymphatics, or by forcing their way through the venoſe ſyſtem †, may occaſion vague temporary indiſpoſitions and uneaſineſſes in this or that part alternately ‡, for ſome time, which may be called *Rheums*, or Fluxions of humors, until they find a free exit, *qua datur porta* §; either by opening a vein, or by the outlets of the ſkin, kidnies, bowels, or pituitary membrane, or by burſting ſome weak veſſel; or until they are drained off by ſome artificial emunctory, ſuch as an iſſue, ſeton, or the like; or, laſtly, when acrimonious, until they are corrected by ſome ſpecific alterant, (if ſuch there be) or by an appoſite method of diet and exerciſe continued for a courſe of years.

* Schn. lib. iv. p. 4. † Schn. lib. iii. p. 110. ‡ Id. lib. iv. p. 4.

§ Schn. lib. iv. p. 47. αι ζαρκες λιην εμπλεαι γινομεναι οτε αν μη δυνωνται χωρεειν ρει το υγρον το μη δυναμενον χωρεεσθαι. ρει ἢ αν τυχη. Hippoc. Foeſ. de locis in homine, p. 411.

But moreover, if the doctrine of Fluxions or *Rheums*, according to the general ſenſe in which theſe words have been underſtood, be falſe or erroneous, that alſo of *Catarrhs* or Defluxions, according to the particular conſtruction given to them, is no leſs ſo; inaſmuch as whatever humors are conveyed to or from the brain, are carried there and returned by no other ways than in the maſs, and according to the common courſe of circulation, by the importing carotid and vertebral arteries, and the exporting jugular and vertebral veins *, without any excretion, excepting that of perſpiration from the capillary arteries, or of any fine fluid which the nerves may be ſuppoſed to imbibe and emit.

Schneider, by the moſt indefatigable and accurate inquiry into the cavity and outſide of the head, has inveſtigated and fully demonſtrated the fact I have aſſerted: He has ſhewed, that there is no ſeparate duct or paſſage whatever from the head, either within ſide or without, by which any humor can flow or diſtil, either into the noſe, mouth, or any inferior part whatever; but

* Schn. lib. iv. paſſim.

that

that every hole, greater or leſs, which appears in the dry ſkull, is accurately cloſed up * by the meninges and the ſtrict connexions of theſe with the coats of the tranſient nerves and blood veſſels, in the living one: So that this term, *Catarrh*, when applied to denote the formal cauſes of naſal or other diſcharges of humors, in the ordinary ſpecies of colds, *viz.* as being defluxions or excretions of humors through appropriate paſſages from the head and brain, having no foundation in the animal œconomy or ſtructure of the parts, to ſupport it, and as conveying, according to its original etymology and deſigned meaning, falſe ideas; ſhould be no longer entertained on any other foot, than to expreſs the mere effects or ſymptoms of this kind of diſorders †, the true reaſons of which are next to be inveſtigated.

CHAP. II. SECT. I.

Of Perſpiration.

THE doctrine of perſpiration is undoubtedly related to, and neceſſary to be underſtood in order to form a true and complete idea of, the theory of a Cold;

* Schn. lib. iv. p. 25. † Schn. lib. iv. p. 40.

but

but then it may be queſtioned, whether this doctrine has been in general ſufficiently underſtood, or explained, in its full extent, as it ſtands in this relation. I imagine it has not: Although it was not unknown to *Hippocrates* *, yet it owes its name and preſent eſtabliſhment to *Sanctorius* †, who conſidered it only (except in one or two places by accident) in regard to the daily waſte of the animal fluids, made by the outlets of the external ſuperficies of the body, and by the windpipe; and how far this waſte, as it exceeded or fell ſhort of the juſt quantity, affected perſons health and eaſe ‡ in general, without any particular mention of, or alluſion to, the diſorder under conſideration. And, if I am not miſtaken, this doctrine, juſt ſo far as it has been laid down by its inventor, or rather improver, has been acquieſced in by moſt others, as containing an adequate and complete account of this part of the animal œconomy; whereas it cannot be doubted of, but that many other parts, beſides theſe external outlets, are equally concerned in it, though not particularly ſpecified by *Sanctorius*. All the ſurfaces of the parts of a human body, as well thoſe of the muſcles and viſcera,

* Kaw de perſp. c. i. § 5. † Kaw, p. 14.
‡ Sanctorius, Sect. i. Aph. 5. Kaw, p. 15. 53. Sanct. Sect. ii. Aph. 8. & paſſim.

as of the ſkin, are naturally in a perpetual ſtate of perſpiration: They have all membranous outward coverings, and where ever there are cavities they have inward lineings, all equally full of tranſpiratory pores and ſecretory ducts, with the outward ſuperficies of the ſkin commonly ſo called: Such are the membranes of the noſtrils, ears, mouth, fauces, ſinuſſes, pharynx, gullet, larynx, aſpera arteria, bronchia *, pericardium, ſtomach, liver, &c. † all of which are obnoxious to the ſame inconveniencies of an obſtructed perſpiration, from any accidents capable of reaching and affecting them, equally with thoſe happening on the parts more immediately contiguous with the circumambient air. But as the diſeaſes, dependant on obſtructions of the viſcera, are rather ſecondary accidents, have other peculiar denominations, and do not, in the firſt view, fall under the head of a Cold; I ſhall confine myſelf to the conſideration of ſuch of thoſe parts mentioned, as when obſtructed give riſe to this diſeaſe; with regard to which I ſhall firſt lay down the following propoſitions.

1. WHATEVER diſorders are primarily owing to the action of cold air, whether

* Kaw, p. 53. † Kaw, paſſim.

wet

wet or dry; or of other cold and wet ſubſtances, may properly fall under this general denomination of a Cold, and ſuch action may be called its procatarctic, or antecedent cauſe.

2. WHATEVER diſorders do not primarily come under this deſcription, but are only ſecondary effects, are not to be claſſed under this head.

3. THOSE cold and wet ſubſtances, when accidentally applied, in certain unfavourable conditions or circumſtances of the parts to which they are applied; or otherwiſe, when applied with a greater force than ordinary, produce the diſeaſe by a ſudden check given to perſpiration; which may be denominated the remote cauſe of a Cold.

4. THIS check given to perſpiration, or more accurately, to the free ſecretion of the perſpirable matter, by the cauſes mentioned, in any one or more of thoſe parts which are within the reach of contact with the external air, &c. (ſuch as are, firſt, the apparent ſuperficies of the body, *i. e.* the outward ſkin; and, ſecondly, the more latent and cavernous ſurfaces of the mouth, noſtrils, ſinuſes, &c.) occaſions an obſtruction of the circulation in thoſe parts; by

which they become preternaturally loaded; oftentimes painfully diſtended, and their natural offices perverted; and this their ſtate may be, with ſufficient preciſion, denominated, the proximate cauſe of a Cold.

THESE propoſitions naturally lead me to the conſideration of the ſpecific nature of the *Perſpirable Matter*, by which it is particularly ſubjected to obſtructions; as alſo to a deſcription of the ſtructure, ſituation, extent and office of that remarkable Membrane which lines the cavernous ſurfaces juſt mentioned, and in which the obſtructions, which moſt frequently give riſe to colds, happen.

CHAP. II. SECT. II.

Of the Perſpirable Matter.

THE warm perſpirable matter of the human body appears, throughout, to be of one ſimilar nature, *viz.* clammy, or adheſive; and it is moreover liable to remarkable inſpiſſations, or to become very tenacious, and even coriaceous, if ſuddenly chilled, and more eſpecially after having been heated, and its thinner parts evaporated; as in the preparations of jelly and glue.

THIS

THIS matter is produced from the *elaborated* chyle; that is, from the chyle after it has been defœcated of all the excrementitious parts of the aliments, by the inteſtines and kidnies; after it has been churned by the ſucceſſive compreſſions and conquaſſations of the lungs *; and ſtill farther concocted by the impulſive ſyſtole of the arteries, continued on through all their minuteſt ramifications; and after having, in the courſe of its progreſs, ſecreted off whatever particles were unneceſſary to, or not fit for its laſt moſt important deſignation, the nouriſhment and repair of the body †: For this matter ſeems to be the reſult of the ultimate and moſt perfected concoction of the animal juices; which is continually permeateing, or oozing through the ſubſtances of all the ſoft parts; and is the general nutrimental ſupply, furniſhed by nature, to the worn and waſted fibres throughout the whole machine ‡: Whatever of it is redundant, over and above the good offices it is deſtined to perform, paſſes through the pores and excretory ducts of all the internal, and external ſurfaces, of the ſeveral parts of the body; at the ſame time

* Kaw, p. 82. † Schn. lib. iv. p. 95, 96.

‡ This is the *inominatus*, *ros*, *gluten* and *cambium* of the Galeniſts. See Sennerti Inſtit. lib. i. c 9. ad finem. Kaw, Aph. 1065, 6, &c. Schn. lib. iii. cap. 111.

keeping thoſe ſurfaces moiſt and ſupple, and, whilſt in its natural ſtate, preventing them from mutual adheſions, or uneaſy rubbings one againſt another; and what remains is again taken up by the reſorbent veſſels *.

As the inveſting ſurfaces of all the internal parts of the body, as well as that of the whol, are membranous, ſuch as thoſe of the viſcera; of the muſcles, &c. it is as probable, that all theſe membranes were originally compoſed and formed of this matter †, as it is, that they do afterwards, as the animal increaſes in bulk and ſtature, receive their augmented dilatation and extenſion from, and are continually repaired and preſerved by it; at leaſt whilſt the animal is in health, and this matter continues to tranſude, and to be in a fit ſtate for application and adheſion: The ſame may alſo be ſaid of the adipoſe or cellular membrane, which is diffuſed almoſt throughout the body under the ſkin; which covers the muſcles and dipps into all their interſtices, preſerving their eaſy motion and flexion; which ſerves as a ſoft bed for the eyes to roll eaſily in their orbits; is ſpread over the omentum and meſentery, to connect, and to facilitate the motion of, the

* Kaw, p. 211, and onwards. Haller prim. lin.
† Halleri prim. lin. Kaw, paſſim.

in-

inteſtines; and which in many other places anſwers the like neceſſary purpoſes; as alſo that of being a vehicle of ſafe conveyance to the veſſels and nerves.

I HAVE mentioned theſe circumſtances, in order to ſhew the great importance of this perſpirable matter in the animal fabric and œconomy; and the rather, as I may have occaſion hereafter to refer to them, when I come to ſpeak of the cautions neceſſary to be uſed, whereby to preſerve it in its natural ſtate of tenuity and temperature.

ALL the juices of the body, when firſt ſecreted from the capillary arteries, are naturally in a heated and therefore thin fluid ſtate *; but they afterwards grow thicker, by reſting unactuated in their receptacles or follicles, as well as by a diſſipation or abſorption of their aqueous parts, and perhaps alſo by compreſſion: This is particularly the caſe of the glandular mucus in the noſe and mouth; as alſo in all the canals, greater and ſmaller, where ſuch a humor is neceſſary, as a natural defence to their internal ſurfaces, againſt all acrid and ſtimulating particles.

* Halleri Inſtit. vol. i. p. 174.

THERE

THERE are therefore two principal cauſes of the tenacity of the perſpirable matter, the one natural, the other preternatural; and two ſpecies of tenacity, the one ſalutary and neceſſary, the other hurtful and dangerous; the laſt of which is what properly belongs to the ſubject I am treating of, to which may be added another remote cauſe of the laſt ſpecies, *viz.* an undue quantity of gelatinous foods taken into the habit in the common courſe of living; which of all the prediſponent cauſes, may be looked on as one of the moſt frequent which occaſions this preternatural tenacity.

IT is this very matter, preternaturally inſpiſſated, which forms the tenaceous ſubſtance that appears on the upper ſurface of blood drawn, upon opening a vein, in the caſes of neglected colds and fevers, called ſize; and it is the ſame matter of which the tough membranes are formed, obſervable in the caſes of adheſions, in which one, or both lobes of the lungs, are often found cloſely connected with the pleura, after peripneumonies, pleuriſies; as well as other adheſions, from inflammatory diſeaſes of the ſeveral parts.

SUCH

SUCH an obſtructed perſpiration, therefore, as is ſufficient to produce the diſeaſe moſt commonly called a Cold, is antecedently owing to a ſudden preternatural chill, and inſpiſſation of the warm thin juices, in their ſecretory, or excretory ducts, or follicules, and alſo to a corrugation or ſpaſmodic conſtriction of the ducts themſelves; and on this depends the proximate cauſe, *viz.* a ſtop put to the natural ſecretions and abſorptions, and conſequently to the free circulation of the humors through the capillaries, which hereupon are diſtended, and load the compound organs on which the affection falls, and particularly the *Pituitary Membrane*, which is much the moſt liable to this accident, which gives riſe to the moſt immediate and remarkable ſymptoms of the diſeaſe, and which therefore deſerves next to be conſidered.

CHAP. III. SECT. I.

Of the Pituitary Membrane.

SCHNEIDER, diſſatisfied with the old doctrines of elements, humors and qualities, and particularly with thoſe others depending on them, relating to Rheums and Catarrhs, into which almoſt all diſeaſes

were

were reſolved *, ſet himſelf upon inquiring, with indefatigable labour and minuteneſs, into the foundations of them. In order hereto, he collected together all the various accounts which had been given about them, by the large tribe of *Galenic* writers: He carefully examined how far their accounts agreed, or diſagreed, with the animal ſtructure and œconomy in general, but more particularly with that noble diſcovery, made but a little while before, by Dr. Harvey, of the circulation: And farther, as I have already hinted, he, by numerous diſſections of the ſkulls of animals, ſoon after death, found, that there was no paſſage left open, through which any ſeparate humor could deſcend from the inſide of the head †; and in the courſe of his diſſections, he was ſo happy as to inveſtigate the *Pituitary Membrane*: The reſult of all which was, a compleat detection of the fallacy of all the before-mentioned accounts, which he found to have been built upon mere appearances, joined to the imaginations of ſpeculative men (without farther examination) how to account for them; in the room of which he inſtituted a new

* Nimirum, quam diu homines frugaliter vivunt, *Catarrho* non laborarunt, quem ſi dicis, omnia morborum genera dixiſſe videris. Schn. lib. iii. cap. 8.

† Lib. iv. p. 25.

theory,

theory, founded in nature and experiments; laying it down as an unfailing maxim, that all natural ſecretions of humors are derived from the maſs of blood throughthe extremities of the capillary arteries; (ſaving in the caſe of the bile, where the branches of the vena porta perform the office of arteries) and that all thoſe appearances which had given riſe to the opinion of *Catarrhs*, or humors flowing down from the inſide of the head into the noſtrils, mouth, *&c.* were intirely owing to arterial ſecretions through the *Pituitary Membrane* *.

THIS membrane is a ſoft ſkinny covering, or lineing to various parts, which will be taken notice of in what follows, of a very red colour, occaſioned by the great number of arteries diſperſed all over it, ariſing from the internal and external carotids. It is called the *Pituitary Membrane* from its office of ſecreting the pituita, or mucus; alſo *Schneider*'s membrane from the name of its diſcoverer. Beſides its office of ſecreting mucus, it is moreover, with reſpect to that part of it which lines and inveſts the olfactory cavities and eminencies of the bones, (by means of the nerves with which it abounds) the immediate organ of ſmelling.

* Schn. paſſim, ſpeciatim, lib. iii.

THIS organ is of large extent, not being confined to the noſtrils, but comprehending alſo various cavities, called ſinuſſes, formed in the ſeveral contiguous bones; (into which there are manifeſt openings for the air to enter from the noſtrils) ſuch are thoſe large caverns in the upper jaw bones, under the orbit *; thoſe in the frontal bone, above the inner angles of the eyes; in the wedge like, and in the ſieve like bones; over all the inſides of which, immediately upon the perioſteum, or perichondrium, of the ſeveral parts †, this membrane, thick ſetwith blood veſſels and nerves, is ſpread, both for the ſeparation of the matter of the mucus, and for enlarging the organ, and augmenting the ſenſe of ſmelling ‡: On its hinder part are diſſeminated a great number of ſmall ſimple follicules or glands, which are mainly inſtrumental in preparing, and furniſhing this mucus, eſpecially the thicker and more concocted part of it: Each follicule receives § into its cavity the thin lymph ſecreted or perſpired from the minute capillaries; which lymph, by reſt, by cooling, and by the reſorption of its aqueous parts into the concomitant veins, and alſo in

* Haller. Inſt. vol. iv. p. 40. † Id. p. 53. Heiſt. Comp. p. 152. ‡ Haller, Inſt. vol. i. p. 173.—Vol. iv. p. 49. Heiſt. Comp. p. 51. § Haller locis citatis.

part

part by diſſipation, becomes the mucus ready formed for excretion, through its peculiar ducts, into the noſtrils, as often as it is turgeſcent, or as the uſes and purpoſes of nature require. The other capillary arteries of the coat, diſtinct from thoſe ſpread over the follicules, alſo ooze out their lymph *, which is inſpiſſated, by the action of the air carrying off its thinner parts, and by being entangled in the glandular mucus; and it ſeems very probable, that this twofold proviſion may be neceſſary, in order to preſerve a ſalutary mediocrity of conſiſtence in this humor.

PART of the ſame common membrane, which lines the organ of ſmelling, alſo inveſts the paſſages from the noſtrils to the fauces †, as alſo the palate, the fauces, pharynx, gullet, larynx, aſpera arteria, bronchia, *&c.* all which parts are known conſtantly to ooze with this mucoſe humor, and to be ſmeared all over with it ‡; it being, when in its natural ſtate, a neceſſary defence againſt the acrimony of any particles that might otherwiſe ſtimulate and give uneaſineſs.

* Boerhav. de olfactii. Haller, vol. iv. p. 52. 59.
† Haller, vol. i. p. 173. ‡ Schn. lib. iv. p. 50.

CHAP. IV. SECT. I.

Of the diſeaſed Affections of the Pituitary Membrane, *and particularly of thoſe ariſing from Colds taken.*

THE diſeaſed affections to which this membrane is incident, may be conſidered in general, either as they relate to the ſtructure of the membrane itſelf, or to any particular quality of the humors ſeparated through it.

THE moſt common diſorders to which the membrane is liable, are, obſtructions in the capillary arteries and veins, and in the ducts of the glands, diſtributed over, interwoven in, and pierceing through its ſubſtance; from whence follows a preternatural fulneſs, and diſtenſion of the veſſels; together with a conſtriction of the membrane; ſtimulation of the nerves; and, at laſt, an immoderate diſtillation and efflux of humor; all which, as they frequently ariſe from the inſpiration of cold air, are what, as has been already obſerved, we with ſufficient propriety call a Cold, and which, as Dr. *Haller* obſerves *, was with one common voice called a *Catarrh*, and

* Inſtit. vol. i. p. 173.

by

by the conſent of all antiquity, falſely ſaid to be derived from the brain.

When the juices are in fault, and eſpecially when they are contaminated by malignant miaſmata, this humor, as *Schneider* obſerves, becomes alſo acrid and malignant, and is ſometimes mixed with blood; when, inſtead of defending, it exaſperates and abrades the membrane, excites an ulcer, and ſometimes corrupts it to ſuch a degree, as to ſeparate ſloughed flakes, which are thrown off with the mucus * : Hence alſo ariſe Ozænas, Caruncles, Polypi, and Cancers.

As the ſeveral parts of this membrane are furniſhed with branches of blood veſſels from different trunes, which branches inoſculate one into another; ſuch as the branches from the internal and external carotid arteries; one or other of theſe with branches from the aorta or intercoſtals; *&c.* and the ſame alſo happening in regard to the veins; hence ariſe frequent vicarious ſhiftings, or tranſlations (in the caſes of colds) of the obſtructions, from one part of this membrane to another, *viz.* when the diſorder has firſt ſhewed itſelf by a ſtuffing of,

* Schn. lib. iii. p. 541.

and

and diſcharge from the noſtrils, it ſhall remit of its violence in this part, or go quite off for a time, and ſhift its place to the larynx or trachea, and occaſion a hoarſeneſs or cough, or the like; and *vice verſa*. But of theſe I ſhall now treat in their order.

CHAP. IV. SECT. II.

Of the ſeveral ſpecies of Colds, and firſt of a Coryza.

I Shall now proceed to a more particular conſideration of each ſpecies of the diſeaſe called a Cold; as well thoſe to which the ſeveral parts of the pituitary membrane are liable, as alſo ſeveral others relating to the general covering or outward ſkin; firſt premiſing, that on whatever part of the body the cold be taken, the juices of that part, and the part itſelf, will firſt ſuffer under the inflicted ſtroke, and will generally ſhew the firſt ſigns of diſorder, while the other parts will remain unaffected, *i. e.* the diſorder will be at firſt local; for inſtance,

Let us ſuppoſe a perſon juſt come out of his warm bed, or a cloſe warm room, or crouded aſſembly, or from a ball, into the open air, with his whol body heated inſide and out, and conſequently

quently in an extraordinary ſtate of increaſed perſpiration: Suppoſe him ſomewhat aware of danger, and therefore ſufficiently clothed to prevent a ſudden chil on the ſurface of his body; but not apprehending any poſſible miſchief from the reſpiratory paſſages, he takes no care to guard them, but breathes repeatedly a cold damp air up his noſtrils: After twelve hours, more or leſs, he perceives the upper part of his noſe to be ſtuffed, ſo as to hinder his breathing that way, and ſmelling, with theuſual freedom; he ſneeſes every now and then; a thin humor then begins to diſtil from his noſtrils; he complains of a heavineſs, or pain, in his forehead, often a little above the eyebrows at the internal angles of his eyes; which diſorders are oftentimes ſo troubleſome, as to make his common employments uneaſy to him, and, at length, to keep him within doors; where after ſome days continuance, perhaps five or ſix, and with proper care of himſelf, the humor, during this time, by degrees flowing more and more plentifully and readily, begins to thicken, and at laſt becomes concocted mucus, which he diſcharges in great abundance; the ſneeſing then leaves him; he is freed from the weight and pain; the large diſcharge of thick mucus, afterwards, daily diminiſhes; and he ſoon recovers his accuſtomed ſtate

of

of health and eaſe. This is that ſpecies of cold called a *Coryza* *, which *Meſue* ſays † takes its name from the bones of the noſtrils; and which, from the manner of its being taken, may be juſtly deemed a mere local affection, or an affection of that part of the *Pituitary Membrane* which is ſpread over the noſtrils and frontal ſinuſſes; by which that conſtant, equal, and gentle ſecretion of the perſpirable humidity ‡, and glandular mucus §, from the capillaries of the carotids, and from the ducts of the follicules, which is neceſſary to this organ, (as well to moderate its ſenſation, and thereby to make it eaſy and pleaſant, as to defend it againſt irritations and injuries, either from any intemperature of the air, or from any extraneous and noxious bodies) is impeded and diſturbed.

But it muſt be obſerved, that although a *Coryza* as well as other preternatural diſcharges from the pituitary membrane, do for the moſt part ariſe from the inſpiration of cold air, and in that caſe are juſtly imputable to local affections of thoſe parts of the membrane, where the obſtructions firſt ſhew themſelves; whither in the noſ-

* See Gorræus in vocem κορυζα.
† De Catarrho, p. 234. See Iſidori Orig. lib. iv. cap. vii.
‡ Kaw-de Perſp. p. 11. § Schn. lib. iv. p. 46.

trils,

trils, mouth or aſpera arteria; yet they may ſometimes happen from a more general affection, when the membrane, or its veſſels, in one or other of the parts mentioned, are *naturally* looſe or inelaſtic; or when, by repeated accidents of taking cold, they have been *preternaturally* weakned, or enlarged: For example, a general check given to perſpiration, over the ſurface of the body, by a ſudden irruption of cold, damp, or ſleety air; or by wet linnen, or damp beds, will, in prediſpoſed habits, occaſion a plethora, which nature may endeavour to eaſe itſelf of, by its own forces, where ſhe can find the readieſt outlets; which may chance to be, from the cauſes mentioned, through ſome part or other of this Emunctory.

Moreover ſuch a plethora may, at ſome other times, be immediately dependant on an internal cauſe, antecedently produced by a different, nay by a contrary variation of the atmoſphere to that juſt mentioned, *viz.* when from a cold, dry, denſe and elaſtic, it ſuddenly changes to a warm, moiſt and open ſtate. It appears from numerous experiments, that the air contained within our bodies, muſt, in order to preſerve them from being cruſhed inwards, or burſting outwards into atoms, ſuffer ſuch alternate oſcillations

or condenſations and expanſions, as ſhall always keep it near to an equilibrium with the circumambient air, in *its* different condenſations and expanſions: Now the weight, and preſſure of the external air, upon the ſuperficies of a human body, is ſometimes diminiſhed, by the difference of ſome thouſands of pounds, from the weight and preſſure it ſuſtains at other times. This happens when the wind turns to the ſouthward; the mercury ſinks low in the barometer; the high firm clouds ſeem all to deſcend, and to reſolve into looſe vapours; and the condenſed air expands into low broad winds: In this ſtate of outward air and weather, the air contained in the fluids, and in the cavities and interſtices of the ſolid parts of the body, will alſo expand; the humors will relax from their firm coheſions and connexions; they will ſwell in the veſſels, and often occaſion an emphyſematoſe fullneſs, clumſineſs and inability of the limbs; the whol body will feel loaded and inert; the lungs will be oppreſſed; the head will ach, and a heavineſs be felt over the eyebrows *; all which ſigns of a plethora will be followed by oozings of a limpid pituita through the membrane, which will, at firſt, drop, now and then, from the noſtrils; afterwards will,

* Cæſar Auguſtus auſtrinis tempeſtatibus gravedine tentabatur. Sueton in Vitam, cap. lxxxi.

from

from time to time, trickle down in rivulets; and at length, will pour through the open veſſels in copious and conſtant defluxions as if a violent cold had been taken, until the habit be emptied of the exundating humors; when a period will be put to all the complaints.

A continued dry and earthy ſtate of air, ſuch as continental eaſt winds bring with them, will, by preternaturally abſorbing the humidity of, and in conſequence by drying and irritating, the pituitary membrane, occaſion ſneeſings, conſtrictions, inſpiſſations, ſtoppages, and the diſeaſe in form. An intenſely biting froſt will gangrene the membrane. A continued conſtitution of atmoſphere, with low, black, ſtagnant fogs; with ſudden, frequent intermiſſions, interchanges and oſcillations of dryneſs and moiſture, expanſion and condenſation, will corrupt and putrefy both membrane and mucus. A continued damp ſtate of air, will check the perſpiration, obſtruct the ducts, and thicken the matter; and though it may not immediately occaſion ſuch an impediment to the circulation, as to bring on a diſtillation, it will, however, greatly augment the diſcharge of mucus; and if it holds for a conſiderable time; or if the ſlighteſt accident

from a cold, taken in the way before mentioned, ſhould happen, it will alſo bring on the diſeaſe in form.

The natural and ſalutary termination of a *Coryza*, from a local affection, is by reſolution; and this happens in the following order and manner. The membrane being upon the ſtretch, from the obſtructions of the capillary veſſels, makes, by the elaſtic force with which it is endued, a perpetual endeavour to recover itſelf, and, by ſo doing, ſqueezes out ſome of the thinner lymph, which then diſtils from the noſtrils. This niſus continuing, and the ſtricture being hereby in part taken of from the lymphatic arteries, they alſo are enabled, by their contractile power, to diſcharge their contents more and more freely, and the catarrh flows more conſtantly and copiouſly; till, at length, theſe arteries being to a good degree unburthened, and, in conſequence, exerting their elaſtic force, joined with that of the membrane, with greater effect, they begin to recover their natural tone and dimenſions; and thus, the veſſels, not only get rid of the humours, which, from time to time, ſtill preſs for admiſſion, but, alſo, are put into a ſtate both of returning the ſuperfluous blood, by the capillary veins, back into the maſs, and of reſiſting againſt future influxes: Then it is when

when the diſtillation from the lymphatics abates in quantity, returns only by fits, and after longer intervals; whilſt the diſcharge of mucus becomes more equal and conſtant. In this ſtate affairs continue for ſome ſhort ſpace; the diſcharge of mucus not inſtantly ceaſing, through mere weakneſs of the veſſels and follicules, occaſioned by the diſtenſion they have ſuffered; the completion of the cure depending on a perfect recovery of the natural tone of the ſtretched veſſels and follicules: To facilitate which reſolution and recovery, it is often neceſſary to take away blood, and ſometimes to empty the bowels by gentle aperitives, in order to eaſe the membrane of that load, and tenſion, which would otherwiſe be too great for the elaſticity of the veſſels to overcome, and which might, hereby, ſpread and multiply the obſtructions; rupture the veſſels; inflame the membrane, and particularly that part of it which inveſts the frontal ſinuſſes, ſo as to create a dangerous Fever; a Phrenitis, with naſal hæmorrhages, and local gangrenes. For, although there be no paſſage from the head through which pituita can flow, yet there is a communication by means of blood veſſels, between theſe parts and the brain; * ſo that obdurate, or ill ma-

* Schn. lib. iv. p. 46, 47, 48.

naged

naged obſtructions in the pituitary membrane, may occaſion the ſame diſorders to ſpread into the cavity of the ſkull, equally as if ſuch paſſages exiſted, together with all the train of bad conſequences that could ariſe from them, but without equal means for relief.

CHAP. IV. SECT. III.

Of a Sore Throat.

WHoever has had occaſion, or has been induced by curioſity to look into, and carefully examine the back parts of the mouth, muſt have obſerved them to be of a bright red colour, which is owing to the great number of blood veſſels with which they are interwoven, and ſometimes ſo thick and cloſe, as to leave no appearance of ſpace between, by which the naked eye can diſtinguiſh the individual veſſels, but which repreſent one bright red expanſe of ſurface; ſometimes the veſſels are diſtinctly conſpicuous, and give a ſtreaky, variegated, and beautiful appearance. Theſe parts of the pituitary membrane are alſo furniſhed with very remarkable, and ſome very large mucoſe glands. If the cold air, by ſome accident, like to any of thoſe before-mentioned occaſioning a Coryza, inſtead of being in-

ſpired

ſpired by the noſtrils, ſhould be ſucceſſively drawn in at the mouth, and inflict its repeated ſtrokes on the looſe pendulous curtain of the palate, on the uvula and tonſils; a ſimilar kind of diſeaſed affection will happen on theſe parts of the membrane, to that which I have deſcribed as falling on the noſtrils. There will be, moreover, an apparent tumour, attended with a fierce redneſs of the parts; the tonſils will be greatly augmented in their bulk; the uvula will be thickened; the iſthmus of the fauces will be narrowed and ſtraitned, by the fulneſs of the ſeveral parts, which are ſometimes ſo ſtretched out and enlarged, as almoſt to meet one another from all ſides; from which the action of ſwallowing becomes painful and difficult; as alſo that of excreting the load of viſcid flegm, with which the parts are grievouſly incommoded. This ſpecies of cold is called, by *Celſus* †, after the name of one of the parts moſt apparently and moſt frequently affected, the Tonſil malady. *Boerhaave*, and others, denominate it a humorrhal Quincy ‡; we give it the appellation of a Sore throat.

THIS ſpecies is ſubjected to two diſtinct events; one in the wayof the former, by re-

† Celſus lib. 1. cap. v. lib. vi. cap. x.

‡ Angina aquoſa, œdematoſa, catarrhoſa, Boerh. aphoriſm, 791, 2, 3.

ſolution,

ſolution, relaxation, by mere mucoſe expuitions, and at length a recovery of the tone of the veſſels and membrane; the other, by ſuppuration and purulent diſcharges.* There is moreover a third, but which ſeldom if ever happens, unleſs by ill treatment; namely, an abiding augmentation, and an induration of the tonſils; which, beſides the inconveniencies that muſt naturally attend it, may, in time, produce worſe diſorders of the Schirrous kind. † If the chilling ſtroke ſhould inſinuate itſelf beyond the tonſils, and verberate upon the protuberant mouth of either of the Euſtachian tubes, it will occaſion an acute pain, ſtretching into the ear, eſpecially when the adjacent muſcles are put into action for the purpoſe of ſwallowing; a circumſtance, which though ſymptomatic, deſerves attention, leaſt, by neglect, the obſtructions ſhould ſtretch inwards and inflame the Tympanum.

CHAP. IV. SECT. IV.

Of a Hoarſeneſs and Quincy.

IF the miſchievous blaſt ſhould, from the particular conſtruction of the fauces, or any other cauſe, have ſuch a ſingular di-

* Boerh. aph. 808.
† Boer. aph. 797.

rection

rection as to pass over the parts mentioned; and attack the Epiglottis and upper part of the Larynx; to thicken the membrane of these parts, and to obstruct their numerous glands, thereby rendering their surface unequal and dry, and impeding their action; a roughness, or, sometimes, a loss of voice, partial or total, temporary or continual, of shorter or longer duration, will be occasioned, in proportion as the stroke happened to be light or violent, more or less frequently repeated, and for a shorter or longer continuance of time; or according to the method in which it was first treated. This species was called a *Branchus*, answering to our word hoarseness. If the affection should penetrate deeper into the Glottis; and the membrane, lining the cartilages, should be clogged, thickened and stiffened, so as to impede the free and easy mobility of this part, a difficulty of respiration will be superadded. If the muscles of the Larynx are also chilled and stiffened, this difficulty will be augmented; and if the circulation of the blood, through their vessels, should be obstructed, to a great degree, or for any time, through neglect, or through ill treatment, a tumor and inflammation will arise, and a true inflammatory *Angina* or Quincy be excited, one of the most immediately dangerous of all diseases *.

* Boerh. Aphorismi, 798 ad 808.

Indeed when one conſiders the contiguity of all the parts mentioned, in this, and in the preceding ſections, together with their conſent in various actions; as alſo the communication and common origin of their blood veſſels, it ſhould ſeem ſufficient to put every one on his guard, and upon taking ſuch timely and proper care, under each of the lighter ſpecies, as ſhall prevent their iſſuing in this moſt terrible appearance.

CHAP. IV. SECT. V.

Of a Cough.

IF all the before-mentioned parts happen to eſcape from being hurt, but the pernicious current ſhould drive down the Aſpera Arteria, and impinge on any part of the poſterior membranous ſuperficies of this tube, which is thickly ſtored with the ducts of mucoſe glands ſeated on its backſide; a frequent and, ſometimes, almoſt inceſſant irritation to cough will be excited, by the remora given to the inſpiſſated mucus, paſſing through theſe excretory ducts of the glands, upon the diſtenſion of the trachea; and, from hence, by a ſtrangulation of the ducts themſelves alſo, in every inſpiration; for this cough is nothing more than a violent convulſive expiration,

piration, (ſometimes at the direction of the will, oftentimes whether we will it or not) which becomes neceſſary to diſlodge, pump up, and throw out, this viſcid obſtructing mucus. It is of no ſmall conſequence to inquire, how deep in the Trachea, or Bronchia, the affection is lodged: But as a farther purſuit of this would lead me into the conſideration of diſeaſes, not immediately reſulting from, nor properly falling under, the denomination of a Cold; and as I ſhall be obliged to take ſome notice of them hereafter, I ſhall drop it for the preſent.

The ſalutary event of this ſpecies of Cold, is brought about, by eaſing the loaded parts; appeaſing the irritation; by a reſolution of any obſtructions which may be occaſioned in the capillaries; by a gentle and eaſy expectoration of the viſcid pituita, from the ducts and glands; and, finally, by a recovered ſtrength of all the ſolid parts concerned, by which they may be enabled to reſiſt againſt any farther preternatural influx: To anſwer which ſalutary purpoſes, great caution ſhould be uſed, in moſt recent caſes, not to be too buſy with provocative expectorants, which, inſtead of appeaſing, aggravate the irritation; force a preternatural ſecretion, ſometimes ſpotted, or ſtreaked, with blood; load and ſtretch,

more and more, the obſtructed diſtended glands and ducts; and, by a pertinaceous continuance, utterly deſtroy their tone; 'till either, at length, the mucus ſtagnates in them, putrefies, and creates an ulcer or *Vomica*; and more eſpecially if any of the ſmall bronchial veſſels ſhould happen to be lacerated, by the violence of the cough; or eroded by the acrimony of the medicines *, or humors; or elſe, by an irrecoverable enlargement and weakneſs of all the parts concerned, a foundation is laid for an habitual *Aſthma*.

OBSERVATION.

EITHER of the preceding ſpecies of Colds ſeparately, or all conjunctly, may poſſibly happen, without any other particular affection of the trunc, limbs, viſcera, or of the general habit of the body; they may be ſo ſlight as to go quickly off, and without creating any uneaſy ſenſation, ſaving in the part or parts of the pituitary membrane, which receive the hurtful ſtrokes; but when they are not ſoon relieved by nature or art, they often lay the firſt foundations of dangerous local inflammations, particularly within the head or lungs; as alſo

* Lommius Med. Obſ. p. 143. 9.

fevers,

of general fevers, that is, fevers of the whol habit, by means of multiplied obſtructions, and the conſequent numerous ſtops they put to the circulation. It matters not, in the idea we have of an inflammatory fever, where the ſtop to the circulation begins; for it is certain, it may equally be raiſed by a ſtop given to the circulation, in the pituitary membrane, as in the pleura, or coats of any of the viſcera, or on the outward ſkin; the only difference will be, that the chief ſeat of pain will be in the parts originally affected, but the fever will be equally general.

CHAP. IV. SECT. VI.

Of the putrid Sore Throat.

ALTHOUGH the account to be given of this diſeaſe, will not quadrate with the definition of a Cold, yet, as it bears a certain ſpurious reſemblance of it, and in practice may be fatally miſtaken for one; as it is moſt undoubtedly an affection of the pituitary membrane; and cauſed by ſome ill diſpoſition of the atmoſphere, but has not hitherto been publickly conſidered in theſe lights; I could not omit giving it a place in my papers.

NOTWITHSTANDING its denomination be taken from the affection of the throat or fauces; yet it is by no means confined to this part, but ſpreads, at different times, through all the extent of the pituitary membrane; very often through the noſtrils, and diſeaſing the cavernous bones and ſinuſſes; and, ſometimes, it reaches up, along the proceſſes of the palate bones, to the angles of the eyes; to which let me add, that the malignancy of its virus, has been frequently known to penetrate beyond the confines of this membrane; to tumefy and indurate the Parotids, and to occaſion ſuch a ſtop to the circulation, about theſe parts, as to rupture the veſſels, and cauſe the blood to burſt out, in great quantities, through the auditory paſſages.

THOUGH the ſeat of this diſeaſe be nearly the ſame with, yet it is of a different nature from all the preceding diſorders; and it has different appearances from the beginning to the end of it.

IT ſets out with a putrid, not an inflammatory aſpect; it never riſes to an inflammation in the natural courſe of the diſeaſe, but tends, in its own genuine nature, to a *Sphacelus*, and *Caries* of the parts affected.

THE

THE firſt and common appearances are feveriſhneſs, ſickneſs, vomiting, or purging; the proper and diagnoſtic ſigns which follow, are an ulcerous ſlough on ſome part of the fauces, diſcharging a fœtid matter; a livid, or dark purpliſh colour of the membrane ſpread over the velum, tonſils, and other parts in view; with rather a thickneſs, than any very manifeſt tumor attending it, ſo that the ſwallowing is rather incommoded than painful; the noſtrils are glandered, diſcharging a glary, fœtid mucus; the edges of the noſtrils, and angles of the lips, are excoriated, and ſcab; the eyes diſcharge, from the internal angles, a fœtid matter; and the edges of the eyelids agglutinate.

FROM the abſorption of the fœtid pus, the blood is contaminated; crimſon efflorescencies, and ſmall putrid puſtules, break out on the ſkin of the neck and breaſt; a quick depreſſed pulſe, with a tendency rather to ſtupor than violent perturbation, accompany all, and, if not relieved, terminate in delirium, languor, clammy ſweats, and death.

THIS was the ſtate of the diſeaſe at, and for ſome time after its firſt breaking out, in the year 1739 *, which I well remember;

* In January 1740, upon the unexpected death of a child, under my care, carried off by this diſeaſe, and that within a few

member; when great numbers fell victims to it, eſpecially children: It has indeed, by degrees, abated of its malignancy; * and the true method of treating it is, now, better

a few hours after ſuch favourable appearances, as ſeemed to promiſe a recovery; and upon its ſeizing another, in the ſame family, immediately afterwards, I made my requeſt to the Parents for leave to call in ſome able Phyſician to it; repeating to them what I had before declared, that I was utterly at a loſs how to account for the death of the firſt; and that there was ſomething in the whole of the caſe quite new and unknown to me. The perſon fixed on to both our ſatisfactions was Dr. Leatherland. This very learned and ſagacious Phyſician, upon the narrative I gave him of all that had paſſed in the firſt child's caſe, and of the manner in which the ſecond was ſeized, immediately preſaged a like fatal event to this laſt as had happened to the former; which preſage proved a true one in every circumſtance foretold. The Doctor, as he then told me, on the occaſion of the illneſs and death of the two ſons of the late Rt. Hon. H. Pelham, which fell out in the latter end of the preceding year 1739; and of the alarm it cauſed over all this great city, both from its novelty and fatality, had been employing his care and pains in turning over ancient and modern writers, to ſee if he could trace out any footſteps of this remarkable and terrible diſeaſe; and, after long ſearch, had been ſo happy as to diſcover the identical diſeaſe, circumſtantially deſcribed, in the Spaniſh writers: And from all that I know, or have ever heard, I believe it to be a matter out of queſtion, that it is to Dr. Leatherland we are indebted for this diſcovery, and for the knowledge of the true method in which it ought to be treated. This note I could not help inſerting, as the facts I have related fell ſo immediately under my own cogniſance, without a tacit injuſtice to his merit.

The public had no authentic relation of this diſeaſe 'till the year 1748, when Dr. Fothergill publiſhed his accurate and judicious *Account of the Sore Throat, attended with Ulcers*, &c. which met with that univerſally favourable reception it juſtly deſerved.

* See Dr. Fothergill's Account, p. 21.

under-

underſtood, than it was at its firſt appearance; from both which circumſtances it is become leſs formidable; notwithſtanding which, as from the ſymptoms recited, when the diſeaſe raged in its full vigour, its malignant nature and fatal tendency may be inferred, no degree of circumſpection can be too great, in order to diſcover, and diſcriminate it, at its firſt appearance, from every other ſpecies of ſore throat, hitherto known.

As in all the preceding ſpecies of Colds, evacuations by bleeding and aperitives are, generally ſpeaking, uſeful, and very ſeldom hurtful; on the contrary, in this diſeaſe, they are generally pernicious, and rarely of any uſe *. The ſame may be aſſerted, both from the nature of the diſeaſe, and from experience, of antiphlogiſticks, or cooling medicines, and eſpecially of Nitre. Sudorificks and Veſicatories are the only ſafe evacuants and alterants, which may

* Catarrhi prodigioſum genus populariter viguit,—quibuſdam, una cum febre ardente, eruperunt per totum os puſtulæ, et os ipſum totum interius putrefactum eſt, ac interna tunica albida facta, quæ tandem, mortua eſt. (Anno 1593)—tales fuere illæ duæ conſtitutiones, una 1557, altera 1580 ſub autumni initium invaluit—ut majorem partem hominum ſuſtulerent, *et plerique quibus vel miſſus ſanguis fuerat vel purgans datum, perierint.* Schn. lib. iv. p. 163.

See Dr. Fothergill's Account, &c. Preface, and p. 40, 41, 42, 51, 71.

be at all times adminiſtred, during the continuance of the ſymptoms peculiar to this diſeaſe, which are thoſe above-mentioned. I have ſeen, where by the uſe of the warm regimen, the diſeaſe has by degrees put off its putrid nature; the ſloughs have been intirely ſeparated; the fœtid diſcharge has ceaſed; the parts have become ſound, have changed their purple for a bright red colour, and have afterwards ariſen into a painful inflamed tumor, the pulſe have acquired ſtrength and fullneſs; in which changed circumſtances, bleeding and antiphlogiſtics have compleated the cure. This though a caſe which ſeldom happens, yet it well deſerves to be attended to.

CHAP. V. SECT. I.

Of the ſeveral Species of Colds taken on the outward Skin.

I Have hitherto conſidered Colds only ſo far as they fall on one or another part of the Pituitary Membrane, and obſtruct the perſpiration, and mucoſe ſecretion in thoſe parts; but there are, moreover, various ſpecies of this diſorder, affecting the organical ſtructure, and the perſpiration of the outward-moſt teguments; of which the lighteſt of all is a ſuperficial ſoreneſs or ten-

tenderneſs, which often happens to the ſcarf ſkin of the head, and often alſo about the ſides and back, and by turns on every other part of this general covering; which ſeems to ſhew as if the nervoſe papillæ had been roughly handled by ſome ſudden blaſt of chilling air, rudely bruſhing over the ſurface, without exerting any deeper effects; and which is an affection but a little exceeding that, which contracts and roughens the cuticle in cold weather, and is commonly called a gooſe-ſkin: This generally goes off in a few days, with a little additional covering, and by the common exerciſe of the body.

CHAP. V. SECT. II.

Of Blights, &c.

THAT ſpecies of cold which goes by the name of a *Blight*, happens when a cold ſtream of air is received on any part of the teguments about the eyes, and which checking the ſubtile perſpiration, occaſions an inflated elevation of the teguments of the eye lid and parts adjacent, moſt frequently of the under eye lid, and which gives it the appearance of a blown-up bladder: This diſorder, if the ſtroke has not been exceeding violent, if the hu-

mors are benign, and proper care be taken, goes eaſily off without any farther ill conſequence; but if it be neglected, and if the humors are hot and acrimonious, it may degenerate into an *Eryſipelas*, and require a more exquiſite conduct to get rid off.

When the cold blighting ſtream falls with force, upon the anterior part of the leſſer angle of the upper eye lid, it is apt to occaſion a weeping eye, by a ſtimulation, compreſſion and conſtriction of the lachrymal gland, and its ducts: If, by the violence of the ſtroke, or duration of the flow of humor, through neglect of timely care, this gland ſhould be organically weakened, there will be danger of its terminating in an *Epiphora* *, or an habitual flux of tears on every the ſlighteſt occaſion. If the blow ſhould light on the inſide of the lid, and on the lachrymal points and ducts, ſeated in the larger angle; and the ſpongeous bone and cells be ſtuffed up at the ſame time, ſo as to obſtruct the diſcharge of humor through the lachrymal ſac and canal, into the noſtrils, the glandular and arterial lymph will thicken into a troubleſome pituita, in the angle of the eye; the humor in the ducts and ſac

* Coward Ophthalmiatria, p. 136.

will

will be inſpiſſated, and heated; and theſe complicated accidents will endanger a ſuppuration and *Fiſtula*. If the ſtroke be inflicted on the caruncle or lunar membrane, it may occaſion an *Encanthis*; that is, a tumor of this part, which has been, ſometimes, obſerved to be ſo large, as to cover the lachrymal points; and hereby preventing the tears, diverging from the caruncle, from entering into them, makes them to fall in continued rivulets down by the ſide of the noſe; and theſe tumors, when the juices happen to be acrimonious, ſometimes turn out *cancerous*. If the injury be received on the Cilia, or cartilagineous edges of the eyelids, the ducts of the ciliary glands will be corrugated; the ſebaceous humor, by obſtruction, will become glutinous; the eye lids will be gummed together, and will ſometimes appear excoriated, ulcerated, and ſcabbed; and, without care, will endanger an *Ancyloblepharon* *, that is, a concretion of the lids one with another. If the lymph oozing from the capillaries of the adnata, and flowing over the cornea, ſhould be inſpiſſated by cold, it may concrete, and adhere; and form a *Speck*, or peculiar coat over the pupil, and obſtruct the ſight †.

* Heiſt. Inſtit. Chir. p. 543. † Coward, p. 85, 86; and Heiſt. Chir. p. 623.

CHAP.

CHAP. V. SECT. III.

Of an Ophthalmy.

IT ſometimes happens, that from a ſudden and violent ſtroke of a cold north eaſt, or of a froſty driving wind, upon the inſide of the eye lid, or upon the tunica adnata of the eye itſelf; a perſon ſhall be in an inſtant ſeized with a pricking ſenſation, like as if an angular particle of ſand was got in between the lid and eye, exciting a moſt acute pain upon the leaſt motion of the lid or eye, joined with a flux of tears; but without the appearance of any extraneous body, when examined, that could give occaſion to it; nor will there be, immediately, any apparent inflammation, although it be undoubtedly owing to ſome conſtriction, obſtruction, and tumor, (not diſcoverable by the naked eye) in a capillary artery or vein, which upon the motion of the eye or eye lid, ſuffers a painful diſtenſion, or friction: As this affection is ſudden, confined to a point, and by its extreme painfulneſs obliges the patient to take ſome immediate methods for relief, it is generally ſoon got rid off, without farther miſchief. Keeping the eye lids cloſe, and the eye from motion, and frequently

quently applying a well heated hand, or other ſoft ſubſtance, over the cloſed eye, is generally ſufficient for the purpoſe. But if the blow has been more extenſive, or often repeated, or if proper care has been neglected, it will bring on an *Ophthalmy* *, that is, when the free recourſe of the blood, through the capillary veins to their truncs, being intercepted by conſtrictions, and obſtructions, theſe capillary veins, together with the lymphatic veſſels, will be replete with the obſtructing blood, and the whole tunica adnata, or the white of the eye, will be ſuffuſed with an inflammatory redneſs, occaſioning great heat, pain, and an intoleration of the leaſt motion, the leaſt light, and the ſlighteſt breath of air.

The reſolution of this diſeaſe, is to be immediately undertaken, by every poſſible precaution, and prudent obſervance, in regard to confinement; repoſe; excluſion of light and air; and to abſtinence; as alſo to ſuitable evacuations, and lenient applications; as, otherwiſe, it might be productive of many terrible miſchiefs. For ſhould the inflammation, through neglect, have time to penetrate deep into the coats, or within the globe of the eye, it would

* Coward Ophth. p. 150, 151.

endan-

endanger an *Hypopyon*, or ulceration, with a loſs of the eye: Or ſhould it be ill treated, eſpecially by the miſapplication of cold ſtyptic collyriums, or other empirical ſpecifics, there will be danger of creating a *Chemoſis* *, that is, when the lids are forced aſunder by the inflammatory tumor of the adnata, making the white of the eye to ſwell up above the pupil, and to leave the appearance of a hollow, as it were, within it: Or an *Ectropion* may be occaſioned; in which the eye lids are ſo corrugated, and retracted, as to make their inſides turn outwards, and to exhibit the bloody thickened ſubſtance of the inner membrane prominent †. Any one or other of theſe laſt mentioned diſorders, may have the farther pernicious conſequences, of thickening the coats of the eye, condenſing the humors, ſpoiling their figures, rendering them opaque, and hereby of depraving viſion, or utterly aboliſhing it.

CHAP. V. SECT. IV.

Of a ſwelled Face, Kernels, Cricks, &c.

IF the ſtroke ſhould be warded off from the eyes and parts adjacent, by the hat, or any other defence, and fall upon the

* Coward, p. 148. † Heiſt. Inſtit. Chir. p. 546.

lower

lower parts of the face, *Swelled chops* will enſue; in which the integuments will be inflated from ear to ear, and the lips and noſtrils will be remarkably ſwelled and hard: This is one of the moſt common external affections which occurs; inſtances of which we daily ſee, in cold windy ſeaſons, amongſt the common people, who go about the ſtreets with muffled faces, and execute their affairs without much hindrance from them; though ſometimes (when the ſtroke has been violent and repeated, and moreover has been neglected) it produces a very painful tumor; and ſuch a ſtretch of the parts, from the collected inſpiſſated humors, as ſurmounts their power of reſiſtance, and conſequently prevents the termination of the diſeaſe, by reſolution; and brings on an inflammation and ſuppuration; which, moſt frequently, breaks and diſcharges within ſide of the mouth, ſometimes through the membrane connected with the upper, ſometimes through that of the lower jaw. But inſtances alſo, every now and then, occur, in which, from want of timely attention to eaſe the parts affected of their load, by ſome proper evacuation, the collected matter points outwards, breaks through the external ſkin, and leaves an unſightly ſcar. When it falls on the neck, it oftentimes penetrates ſo deep, as

to tumefy and harden the glands lying in the interſtices of the muſcles, and fat of the neck, in children eſpecially, which then have the denomination of *Kernels*: Sometimes it reaches the Maxillary glands; and ſometimes, in ſtiff froſts and fierce driving winds, one or both of the Parotids; all of which caſes deſerve great attention and care, in order to guard againſt ſtubborn indurations, or dangerous abſceſſes. Sometimes it affects the Thyroid gland, and gives riſe to that large elliptic kind of tumor in the forepart of the throat, which is common to the inhabitants amidſt the Piedmonteſe mountains, called a *Broncho-cele*; A diſorder often of long duration, and difficult of cure; and which, in ſome inſtances, greatly incommodes the ſwallowing, and breathing; but which, however, is frequently remediable by proper management. At other times, by chilling and inſpiſſating the fat of the cellular membrane that dips in amongſt the muſcular fibres, and by corrugating the membranes and muſcular fibres themſelves, it ſtiffens the muſcles of the neck, and gives great pain on attempting to put them in action: Theſe are called *Cricks in the neck*, which happen, ſometimes to the Scaleni, and hinder the bending of the neck; oftentimes to the Maſtoid, which is, now and then,

then, ſo indurated to the touch, as to equal almoſt the hardneſs of a log, and renders the bending of the head, as well as its rotation on its axis, extremely painful and difficult: At other times it falls on the ſuperior and poſterior part of the Cucullaris, and then renders both the flexion and extenſion of the head, and neck, as well as the motion of the arms, difficult and painful. Theſe diſorders deſerve to be taken care of in time, leſt meeting with ſome unfavourable idioſyncraſy of the habit, they ſhould degenerate into one or other ſpecies of a *Tetanus*, or irreſoluble rigidity, followed by convulſions and death.

It may not be improper here to obſerve, that as theſe laſt mentioned complaints, are, for the moſt part, at their beginning, void of fever, ſo there are ſeveral other local affections from cold, which are alſo unaccompanied with any manifeſt, or conſiderable feveriſh appearances; which, however, are very troubleſome, and of ſufficient conſequence to be regarded; For wherever the cellular membrane is ſtiffened, or thickened, by a congelation of the fat, the circulation muſt be interrupted; the free and orderly action of the muſcular parts muſt be impeded and diſturbed; and the equality of forces, between the antagoniſ-

tic muſcles, or the ſeparate bundles of compound muſcles, being hereby deſtroyed, for the time, thoſe muſcles, or parts of a muſcle, which are ſo affected, will fall into ſudden involuntary contractions, or *Cramps*; And whenever the tranſuding perſpirable matter is chilled, and inſpiſſated, in membranoſe, nervoſe, or ligamentoſe parts, (ſuch as are the involucrous faſcias, or tendineous inſertions of the muſcles; the capſular and other ligaments, as alſo the cartilages, in the commiſſures of the bones) it will create thoſe ſtiffneſſes, and gnawing pains, from the obſtructions and ſtretch of the membranes, and from the humors rendered hot and acrimonious by obſtruction, which torment, in *Sciaticas*, *Lumbagos*, and other ſpecies of the diſeaſe called *Rheumatiſm*, which often greatly afflict the patient without any manifeſt fever: Of which kind is, alſo, that which afflicts the aponeuroſis of the muſcles of the head, or the pericranium, and, for the moſt part, on one ſide only; and which, every now and then, go off, and return, in ſome meaſure periodically: I mean that diſorder, ſometimes called *Rheumatiſm*; ſometimes *Ague* in the head; and by the French *Migraine* *, that is, Hemicranium, from its

* See Furetiere *Migraine*.

fre-

frequently occupying juſt half the head; A diſorder frequently very tedious, as well as troubleſome, unleſs relieved by art.

CHAP. V. SECT. V.

Of the Diſorders of the Ear *occaſioned by a Cold taken.*

THE Ear is no leſs liable to receive miſchief from thoſe blighting ſtrokes *, than the parts before-mentioned: The leaſt harm cauſed by them, is a thickening † of the wax, which prevents the free impulſes of the undulating air on the membrane, and little bones of the tympanum; dulls the hearing, and deprives the mind of many notices which it would otherwiſe receive through this organ: If they alſo inſpiſſate and obſtruct the excretion of the wax, thicken the membrane of the auditory paſſage, and hereby ſtraiten this paſſage, and render its ſurface unequal; the air will enter in contracted, condenſed, accelerated and broken ſtreams, and excite indiſtinct ſenſations, and various troubleſome noiſes. If they chill the blood in the veſſels, and obſtruct the circulation ‡, they will provoke a moſt painful tumor, ſtretch,

* Duverney traite de l'organe de l'ouie, p. 110. † Duverney, p. 94—144. ‡ Duvern. p. 97, 114.

and

and pulſation; which, if neglected, or ill managed by hot, acrid, ſtimulating applications, will be apt to terminate in an inflammation *, and impoſthumation; or in a perpetual wakefulneſs, delirium, convulſions, ſwooning, and death †. The ſudden, intermitting, intolerable ſhootings of pain, ſometimes happening within the ear, without any appearance of inflammation, ſeem to ſhew, as if the ſtroke had directly impinged on the membrane of the Tympanum, and occaſioned theſe convulſive ſpaſms of the nervoſe chord ſtretched over it. The ſtructure of this whole organ is ſo delicate; its parts ſo numerous; its veſſels ſo exceedingly minute; its inveſting coats, in which they are interwoven, ſo exquiſitely thin; and its connexions ſo momentous, that it is of the utmoſt conſequence to the eaſe, pleaſure, and ſecurity of health and life, to ſuffer no painful diſorder to continue, no raſh empirical practiſes to be tried, but to take the earlieſt care, that prudence and the beſt eſtabliſhed rules can ſuggeſt, to get rid of it.

* Duv. p. 114. † Duv. p. 97.

CHAP.

CHAP. V. SECT. VI.

Of Fevers *ariſing from taking a Cold.*

IF from any of the circumſtances mentioned, p. 38, 39; or if by going warm on the river; or by ſitting in wet rooms; or late in the night, at ſtudy, without fire, the affection be more general, and the trunc and limbs of the body are made to ſuffer under the inclemencies of cold, and more eſpecially damp air, by an inſpiſſation of the perſpirable matter, and a ſtoppage of the perſpiratory pores; the whole ſuperficies will be (more or leſs in proportion to the violence of the affection) thrown into a ſpaſmodic ſhivering, which is the firſt moſt uſual ſign of this ſpecies of Cold; and which, unleſs immediately taken care of, is a certain prelude to a Fever, if it be not a Fever actually begun.

THIS ſymptom of ſhivering is ſo common and remarkable, as to deſerve ſome particular conſideration; and I think it may be accounted for, in the following manner, from the known ſtructure and oeconomy of the parts concerned; *viz.* Upon the ſtop put to perſpiration, the contractile valves or elaſtic extremities of the

the perſpiratory ducts, are ſuddenly conſtricted; This ſudden conſtriction convulſes the ultimate filaments of the cutaneous nerves; and occaſions a momentary ſtagnation of the blood in the cutaneous veſſels: This ſeems apparent, both by the coldneſs attending the ſhivering, and by the paleneſs of the ſkin: This ſtagnation, and ſhivering ſenſation is communicated thro' the larger branches of the arteries, and of the nerves even to their origin from the ſpinal marrow, and gives riſe to that perception deſcribed, as if cold water was poured down the back: The alternate heats and ſhiverings which follow, are owing, the firſt, to the ceaſing of the convulſion, and to the niſus of the arteries towards forcing open the obſtructed pores; and then the ſecond, to the repeated reſiliant action of the valves of the ducts, and nervoſe filaments, reſiſting againſt this niſus.

The more general the affection, the more inclement, and the more durable the time of affection have been, the more intenſe will be theſe viciſſitudes of cold and heat; and if blood be drawn, it will have more of that appearance upon the ſurface of the cruor, which is called *Size*; which is nothing elſe than the inſpiſſated matter

ter of perſpiration, abſorbed into the habit, flowing from the vein, and emerging in the porringer by its ſpecific lightneſs, from the heavier part of the maſs, while in a warm and fluid ſtate.

THIS *Size* thrown back from the ſuperficies into the habit, and carried by the veins (which augmenting in their capacities, from their extremities to their truncs, return it with more eaſe than the arteries, under contrary circumſtances, can convey it) to the heart; in its tranſmiſſion from thence, by its tenacity, and by the large bulk of its conſtituent particles, paſſes difficultly through the ultimate capillary tubes of the arteries, and the cylindric origin of the veins; occaſions numerous local obſtructions, deviations, tumors, tenſions and inflammations, felt by pains in almoſt every part of the body, and eſpecially in the limbs; both as being moſt remote from the ſource of motion, and of the moſt vigorous impulſes; and as being inveſted with the perioſteum beneath, and the muſcular involucrum above: It ſtops up many canals, and hereby deſtroys the the juſt ratio between the quantity of fluid to be circulated, (which is hereby relatively augmented) and the free ſpaces it requires to paſs calmly through; (hereby diminiſh-

ed) ſo that an accelerated circulation is neceſſarily excited, attended with an increaſed attrition and heat; or in other words, a *Fever* is raiſed.

When this ſizy maſs comes to be trajected through the thin membranous parts; either ſuch which are ſtretched tight, and connected cloſe to the bones; or the inveſting coats of the nerves or veſſels, where the intertexture of the arteries and veins are numerous and minute, and their tubes ſo ſtrictly braced, or connected, as not to admit a turgeſcence of the arteries, without acute pain from the ſtretch of the membrane; nor ſuch a dilatation of the diameters of the veins, as is neceſſary to receive it back; it will often occaſion a *Pleuriſy* *, (which, for the moſt part, owes its exiſtence to a Cold) or an *univerſal inflammatory Fever*, attended with ſharp pains, either deep ſeated in the articulations of the limbs, or in the perioſteum of the bones; or without diſtinction of parts, tormenting the whole machine.

From the ſame cauſes alſo may be deduced other local inflammations, on the inveſting membranes of any of the Viſcera,

* Boer. Aphoriſmus 881.

where

where they are ſtretched tight over, and tucked cloſe, by an intricate intertexture of veſſels, to their cartilagineous, or parenchymatous ſubſtances; ſuch as the membranes of the Bronchia, Liver, and Stomach, cauſing a ſpecies of the *Peripneumonia*, an *Hepatitis*, or other denomination of inflammatory diſeaſe; according as the veſſels of one or other part happen, idiopathically, from the relative ſmallneſs, fewneſs, conſtricture, compreſſion, or weakneſs of their tubes and coats, to be more particularly prediſpoſed, than others, in other parts, to ſuffer under the injury.

If from any ſuch idiopathical cauſe, or other peculiar accident, the obſtructions ſhould fall on the veſſels of the Meninges, there will be danger of a *Phrenſy* or *Gangrene*: If the ſtop be in the cortical part of the brain, *Stupor*, *Lethargy*, *Delirium*, and ſuch kind of ſymptoms will happen: If it penetrate to the Medulla and Nerves, *Convulſions* and death.

I cannot omit to take notice of a caſe I have ſeen more than once; more eſpecially as it is a caſe, which from the apparent mildneſs of its firſt appearance and progreſs, may eaſily deceive perſons into a ſecurity, which its real danger and fatal ten-

dency will greatly diſappoint: It is, when from a cold taken, a gentle fever ſeems to be raiſed, attended with no other complaint of the patient, than a little pain ſtretching in a ſtrait line on the head, in the direction of the longitudinal Sinus, ſcarcely, as he thinks, deſerving to be mentioned: Upon enquiry, however, how he has paſſed the night, he relates, that his ſleep was every now and then interrupted, ſuddenly, by ſome unuſual, but not very confuſed or frightful dreams: In this ſtate the diſorder continues for ſeveral days, without increaſe, but without amendment: The complaints remain fixed and permanent, ſo as to elude all the attempts of art to relieve them: At length a delirium comes on, now and then, which by degrees become perpetual, or attended with alternate Stupors, and end in Convulſions and Death.

A Fever, if proper care be taken of it at its beginning, by cloſe confinement to a warm bed; by abſtinence, or by the uſe of warm diluting liquors; and by ſome appropriate evacuations, generally goes ſoon off without the need of much other medicinal diſcipline: But if it be neglected, and ſuffered to fix itſelf more univerſally in the habit, by multiplied and obdurate obſtructions, it then requires a more careful attention,

tention, and ſagacious forecaſt, as well to remove the preſent painful, or uneaſy ſenſations, as to prevent future ill conſequences.

By a judicious regard had to the firſt intention, the ſecond is alſo ſometimes anſwered; and the fever, after not many days, terminates, either by reſolution; or by ſome laudable critical excretion; or by periodical intermiſſions: But experience ſhews, that theſe favourable events are not always to be depended upon; For it often happens, that through neglect, or by a miſtaken method of conduct, at its firſt onſet, or afterwards; or by the multiplicity and obduracy of the obſtructions taken notice of, and their being out of the reach and power of any immediate diſcuſſion, the diſeaſe will either ſoon hurry the patient out of the world, or run on into a conſiderable length of time, and render the event very dubious; in which caſe the following obſervations may, perhaps, deſerve to be conſidered.

When the more immediately threatning ſymptoms of an Inflammatory Fever, *viz.* the ſhiverings; the alternations of cold and heat; the intenſely hot ſkin; the pains in the head, limbs, ſide, and every

every other ſymptom of local inflammation; as alſo the ſhort and quick breathing; the delirium, the ſtupor, or other complaints, which, in different perſons, attend the beginning, increaſe, or heighth of fevers; I ſay, when theſe are all removed, or ceaſe to exiſt; but the diſeaſe, inſtead of terminating by either of the above-mentioned ways, in a perfect, or intermitting eaſe and tranquillity, ſtill perſiſts to moleſt the patient, by a continued quickneſs of pulſe; interrupted ſleeps; or ſleep, without refreſhment; or diſturbed by confuſed dreams, or ſudden ſtartings; when the appetite does not return, but the patient is troubled with frequent loathings, ſickneſs; or inflations of the ſtomach and bowels; or purgings; with temporary heats, thirſt, and reſtleſſneſs; and a continued weakneſs and languor, but yet without any apparent ſigns of immediate danger; it is then extremely probable, that although the tenacity of the humors be in great meaſure ſubdued, and the blood, in general, paſſes freely through the larger veſſels; yet that there is, either ſome ſofter part, and plexus of ſmaller veſſels, leſs liable to painful diſtenſions, where the obſtructions ſtill remain obdurately inherent; or elſe, that there are ſome depraved, or corrupted humors, which

have

have been ſeparated from off the obſtructed parts; which now float in the habit, and diſturb the circulation; and which require to be diſcharged by the ſkin, or by ſome other emunctory, e'er the quiet of the animal œconomy can be reſtored; And that unleſs regard be had, in either of theſe ſuppoſed caſes, to ſupport the forces of nature, and by ſome artificial drain, conſtantly kept open, to draw off the depraved humors; there will be danger, leſt the remaining obſtructed matter ſhould totally ſtagnate, and putrify in the part, or indurate it; or leſt the corrupted humors, already ſeparated and floating in the maſs, ſhould be ſecreted, and ſettle on ſome one or other, more or leſs compound and noble organ, and occaſion an *Abſceſs*, or lingering *Conſumption*.

When no other appearance of diſeaſe remains, excepting the accelerated circulation, or quick pulſe, (and this pulſe not hard, but weak and ſoft,) accompanied with debility, and a tendency to colliquative ſweats; it may then be reaſonably inferred, that the cauſes of theſe remaining complaints, are, ſolely, an emaciated and relaxed ſtate of the Solids, with a broken attenuated craſis of the Fluids; the latter undulating, like water, without conſiſtence

and

and force ſufficient to diſtend the heart and arteries, to that degree, which is neceſſary to create a proper interval between the ſtrokes of pulſation; the former yielding with more celerity, and leſs reſiſtence and elaſticity, than is neceſſary to give diſtinctneſs, force, or fullneſs to the ſtrokes: In which caſe, the remedies, as modern practice hath diſcovered, are, the *Cortex peruvianus*; laying by the thin liquid regimen, and ſubſtituting a more conſiſtent and nutritive diet; riſing earlier from the bed; and, by degrees, a careful application to the uſe of air and exerciſe. And indeed a *careful* application is moſt neceſſary to be inculcated, in order to avoid a relapſe, either from catching cold, or by overſtraining the weakned fibres, and breaking the feeble coheſions of the newly aſſimilated and applied nouriſhments, and of the newly cemented blood globules; a ſtudious concern to avoid both of which, is of the greateſt conſequence, as well to perfect the reſtoration from illneſſes, as to prevent their return.

But as relapſes are much more frequently owing to premature and indiſcreet liberties taken, in regard to the uſe of air, than of exerciſe: As the cauſes of the firſt ſeizure, and of the relapſe, are the ſame in kind; and, conſequently, as all rules

rules of caution ſerving to prevent the one or the other, will have the ſame general foundation, or muſt be drawn from the conſideration of the various applications, diſpoſitions, and changes, of the air and atmoſphere, (and other cold ſubſtances) which happen naturally, or accidentally; and which relate to the general, or accidental ſtate of our bodies, when colds are taken: I ſhall cloſe theſe papers with a recapitulation of ſome, and an enumeration of other particulars, appertaining hereto, which I hope will be found juſt, practicable and uſeful.

CHAP. VI.

Containing cautionary rules of conduct, in relation to the ſeveral cauſes of Colds, whether proximate, remote, antecedent, or predisponent.

SECTION I.

Of the factitious difference of the air and atmoſphere, within doors and without, as one of the antecedent cauſes.

AS the remote cauſe of colds is an obſtructed perſpiration, and this moſt frequently joined alſo with an inſpiſſation of the perſpirable matter, from the antecedent action of cold air, or other cold ſubſtances, on the apparent ſuperficies

of the body, or on any other parts within the reach of contact with them; the general view of all cautionary rules of conduct muſt be, to preſerve the perſpiration free from checks; and the perſpirable matter in that ſtate of tenuity and temperature, which ſhall render it fit for all its important deſtinations in the animal œconomy, on which life and health depend; and, farther, to guard againſt thoſe accidents which tend to obſtruct and inſpiſſate this matter, and thereby to lay the foundation for this and many other diſorders.

By the factitious difference of the air and atmoſphere, I deſign to exclude the actual variations of winds or weather abroad, which I ſhall hereafter take notice of; and by this term, I mean, only, all ſuch changes of temperature, which people expoſe themſelves to by their own œconomy; *viz.* by a ſudden change of ſituation, or ceſſation from motion: For inſtance, when they ſuddenly quit a warm and confined, for an open and colder place, or a well aired and dry, for a damp and vapoury one; and this indeed is one of the moſt common of all the proximate cauſes of an obſtructed perſpiration, and produces miſchiefs, proportioned to the prediſpoſed ſtate of the body, at the time ſuch changes

are

are made; which ſtate depends on the circumſtances of being newly riſen from bed; of coming out of warm cloſe rooms; or from crouded aſſemblies, or from dancing. Other very common cauſes are, the ſtanding ſtill in the cool air; or throwing by the covering of any part of the body, when heated by walking; running; hunting, or other exerciſes; or by full luxurious meals, eſpecially if the body be, at that time, expoſed to ſtreams of air, or to blowing winds; as alſo going immediately on the water, after being warmed by exerciſe, or other cauſe; or when perſons ſuffer ſleep to ſeize them, after a meal or exerciſe; either when ſtretched at their eaſe on the green ſod, or when retired for meditation, to the cool receſſes of bowers or pavilions; or, laſtly, when preſſed by the neceſſity of nature, and having been heated by the ſun, or by exerciſe, they hurry for eaſe to the neareſt garden cloſet, and relax themſelves over æolian cavities, with running ſtreams, or ſtanding water beneath them.

ALMOST any degree of coldneſs in the air, relative to a preternatural heat of the body, is, at all times, of itſelf, ſufficient to produce an obſtructed and inſpiſſated perſpiration; ſo is dampneſs, and the laſt the worſt of the two, ſingly conſidered; but when they are com-

bined, make the moſt pernicious of all cauſes, eſpecially if aided by the force of currents beating upon the body.

The firſt and moſt natural inference, in order to avoid getting a Cold, is to avoid, in thoſe inſtances, where we have it in our power, all ſudden changes of the temperature of the air; and in the ſecond place *, to arm ourſelves, by proper clothing, againſt the effects of thoſe viciſſitudes which we cannot prevent or ſhun.

One of the moſt common inſtances we have in our power, is that which relates to the different ſtates of the air, within doors and without; and theſe depend upon the artificial differences we make, by the degree of cloſeneſs and warmth of our houſes and chambers; from the fires we keep up; and from the methods we practiſe, either to keep our rooms airy, or to exclude the entrance of the air; and upon ſome other particulars of female nicety, which will be taken notice of.

One of the moſt general and certain rules to avoid colds from ſudden changes,

* See the chapter of natural viciſſitudes.

is,

is, undoubtedly, to preſerve, as nearly as poſſible, and as ſhall be conſiſtent with a freedom from all painful ſenſations from the extremes of cold and heat, an equality, and equilibrium, in temperature and preſſure, between the air in the rooms we reſide in, and that without doors: The next, in order and conſequence, is, to guard againſt the miſchiefs which might ariſe from great inequalities between the one and the other. A proper regard to the firſt would, for the moſt part, vacate the neceſſity of attending to the laſt. From hence it will follow, that the practice of keeping up ſuch fires, as inſtead of making our rooms temperate only, heat them greatly, muſt be attended with conſtant danger, as often as we quit them to go into the open air; and more eſpecially when we accuſtom ourſelves to ſit very near to, or to hover over them; by which the whole fauces, noſtrils, and reſpiratory tube, are heated; a relative vacuum is made in the tube; a rarefaction and preternatural ſecretion of all the tracheal and bronchial humors, arterial and glandular, are occaſioned; and by theſe means we become expoſed to all the particular ſpecies of colds from inſpiſſation, upon a ſudden change of our ſituation, which are wont to affect theſe parts.

To avoid the recited inconveniencies, ariſing from the cuſtom taken notice of, (tho' it would be much ſafer to drop the cuſtom) we ought, before we depart from ſuch rooms, to retire from the fire to ſome other part of the ſame room, or into ſome other room more moderately warmed, for ſo long time as ſhall be neceſſary for the reſpiratory tube, and the humors, to cool, and ſettle into a more natural ſtate; and until the whole body ſhall have regained a temperature more proportioned to that it will meet with of the external air. This caution, if conſtantly uſed, would prevent many colds, which an inattention to, or neglect of, will oftentimes occaſion, and always endanger.

As, on the one hand, all currents of air, from ſtaircaſes, from large openings of doors, or windows, beating on any part of the body, are dangerous; ſuch currents greatly augmenting the denſity, force and coldneſs of the air, and thereby its action and impulſe on the ſuperficies, occaſioning *chills*, *inſpiſſations*, *ſtitches* and *cricks*; ſo, on the other hand, an over-curious excluſion of air, by ſtopping up all leſſer apertures of doors and windows, tends to deprave the air, by heating, and weakening its ſpring; and alſo makes ſuch an inequality of preſſure, as creates

danger,

danger, when we go into the open, cooler, and heavier air: Moreover, this method, by taking away the equilibrium or ballance between the external and internal air, and making a kind of vacuum in our chambers, occaſions ſtreams of more condenſed air to drive in, with velocity and force, either through ſome unperceived creviſes or holes, or through the doors, upon the occaſions of opening them, often unavoidable for the admiſſion of friends, ſervants, or other neceſſary purpoſes of our lives; from which conſiderations, the prudence of obſerving a mean between theſe different extremes, muſt evidently appear.

WHATEVER natural and neceſſary circumſtances of life; or others, which although neither natural or neceſſary, yet from accidental cuſtoms and manners, are very difficult to be avoided, put the body into a ſtate of increaſed heat and perſpiration; fall properly under this cautionary head of guarding againſt quick changes of the temperature of the air, *viz.* the natural effects of ſleeping in our beds are, univerſal warmth, and an increaſed perſpiration; hence all valetudinary perſons, ſhould, before they venture to ſtand at their doors, or open their windows, or walk in their gardens, reſt for ſome time in their chambers, or other moderately

derately warm room, till the warmth and perſpiration have ſubſided, and until they feel themſelves, in ſome meaſure, reduced to the temperature of the ſurrounding air; and when they firſt go out, they ſhould guard the reſpiratory paſſages from a too ſudden ingreſs of the air; eſpecially when it is put into motion by winds, or cool breezes; or when it is thick with dews, fogs, or miſts. The ſame cautions ſhould be uſed by all ſuch perſons who are obliged to attend cauſes, trials, or other full conventions; or ſuch who, in their courſe of pleaſures, frequent theatres, or aſſemblies; where the luxury of illuminations, and the breath of a multitude, not only heat, but oftentimes exhauſt and debilitate the frame, and thereby ſubject it to all the miſchiefs which can ariſe from a quick tranſition out of one extreme into another; eſpecially as the uſual hour of breaking up is, too often, one of the moſt inclement of the twenty-four; wherefore, in theſe caſes, I would be earneſt in recommending the uſe of every poſſible precaution; particularly, firſt, where it is practicable, to retreat to ſome adjoining room which has a fire in it, in cold weather, and there to ſtay till the efferveſcence ſubſides, and the body becomes dry and cool; ſecondly, to take a moderate draught of ſome warmed and diluted

luted wine, or other ſuch liquor, before they venture abroad; thirdly, to be conveyed home in ſome cloſe vehicle; and, laſtly, to cloth themſelves with ſome additional garment; and never to forget guarding the mouth and noſtrils with a muff or handkerchief, againſt the entrance of the cold air, and its paſſage down their throats and windpipe.

THERE are two very erroneous cuſtoms, oppoſite one to the other, that different perſons are apt to fall into; one of which is, to keep up the ſame degree of fire, throughout all the varying temperatures of the colder ſeaſons of the year; the other is, that of poſtponing to renew them during the other ſeaſons, let the temperature of the air be as it will, cold or wet; and until the ſeaſon has changed its name, and the cold weather ſettles in, for good and all, as the phraſe is; or until ſome certain day they are pleaſed to fix upon for this purpoſe. One would think, it ſhould be more natural, to be guided, in this caſe, by obvious appearances, and by our feelings, than by the names of days, months, or ſeaſons; or, in other words, by thoſe circumſtances, which eſſentially characteriſe the ſeaſons; which are the different degrees of coldneſs and heat, dryneſs and moiſture.

THE climate in which *England* is ſituated, is rendered ſo variable, as to the four juſt mentioned qualities, by its being an iſland in the wide ſeas, at a great diſtance from the equator, and in conſequence of this ſituation, by the perpetual viciſſitudes of the ſky, in regard to vapours, clouds, winds and weather; that our poſition, in regard to the ſun, has much leſs effect in producing any ſtability to our ſeaſons, than the circumſtances mentioned have in occaſioning changes in them. We have oftentimes winter weather in the ſummer months, and a warmth in the winter nearly approaching to the degree of ſummer: Theſe changes are frequently ſudden, and one extreme is not ſeldom followed by the other, ſometimes after a ſhort, at others after a longer duration; which circumſtances, being duly conſidered, may ſerve to point out the miſchiefs hazarded by a too obſtinate adherence to ſuch cuſtoms; and to ſuggeſt more prudential rules of conduct; namely, to lay by, or rekindle our fires; and to proportion the degree of them, according to the temperature of the air and weather in all ſeaſons; and never to raiſe them beyond what is neceſſary to keep the rooms dry and moderately warm.

I DO not mean to inculcate a ſuperſtitious, or over nice regard to every ſmall variation of the Thermometer; the common ſenſe of my reader will determine for himſelf what is to be done, and excuſe me from entering into a more minute detail on this head: Thus far, however, I ſhall venture to be particular, *viz.* that ſome ſmall degree of fire ſhould be conſtantly kept up (or at leaſt the intermiſſions, on occaſion of intercurrent extraordinary heats and dryneſs, ſhould be temporary only, and it ſhould be again revived as occaſions return) throughout the ſpring ſeaſon, in order to warm the chimnies ſufficiently, for them to abſorb all damp or cold vapours, which the air, during this ſeaſon, entering into our chambers, is liable to be impregnated with.

IT is true, that the ſun has the ſame ſucceſſive heights in his northern, as in his ſouthern declination; that is, during the time while he is advancing from the equator towards the tropic of cancer, as while he is receding from the tropic back again to the equator; or in plainer words, his relative heights above our horizon, and conſequently the directneſs of his rays, and his poſitive heat, are the ſame, though in a reverſe order, in the ſpring as in the ſummer; or from about Lady-day

to Midſummer-day, as fromthis laſt to Michaelmas-day: Nevertheleſs, experience ſhews us, that theſe reciprocal advances and receſſes *, produce very different temperatures of the atmoſphere, in the two mentioned ſeaſons; and that the former is not nearly ſo ſafe from the danger of catching cold, as the laſt mentioned ſeaſon; for although the ſun in his progreſs from our ſpring equinoctial to the ſolſtitial point, does from day to day extend his power farther and farther on the northern horizons, gradually mollifying the rigor of this part of the earth's coldneſs, occaſioned by his long abſence in the regions ſouth of the equator, until his warmeſt beams reach to the pole, and ſpread their influences all around; yet the warmth, during this his progreſs, is only comparative, *i. e.* only leſs cold; and is but local, temporary and accidental; felt only during his continuance at a certain height above the horizon, and this under a clear ſky, with calm weather, or winds blowing from warm quarters, and when we are actually within

* Atqui Sol pro vario acceſſu et receſſu, ut diverſorum temporum, ſic variorum in nobis effectuum occaſio eſt. Cum propius accedit, quia calore quam antea majore nos afficit humiditates reſolvit, &c. — Aer ſolis abſentia frigidus remanet — mediis vero temporibus medio modo ſe habet aer—ſic pro vario curſu varie afficiuntur corpora, aeris qualitates, velint, nolint, patientia, &c. Schn. lib. iv. p. 244.

the

the touch of his beams: For the mornings * and evenings are ſtill ſharp; and when the ſky is obſcured; the atmoſphere in a diſturbed motion; the winds blow from colder regions, and bring with them clouds fraught with particles of ice and ſnow from the northern ſeas and continents, the air is very piercing. There is oftentimes, almoſt the difference of a ſeaſon, between being in the ſun, or in the ſhade; between going in the ſame direction with, or againſt the wind: In fine, there is no equality, or permanency of warmth in the atmoſphere, to be depended on, till after his arrival at the tropic of Cancer; inaſmuch as before this time, whatever temporary heats may happen, cold winds and weather will frequently and ſuddenly recur.

But from this time, the ſun having, in great meaſure, melted down the mountains of ice, and the ſnow, about the pole; and having eſtabliſhed his dominion in the northermoſt regions; although he is daily receding towards the ſouthern world, yet the influences of his long abode in the former, remain in full force for a conſiderable time, and acquire daily augmentations from his continued vicinity: For as his receſs is gradual,

* Matutinum tempus veri ſimile eſt, meridies æſtati, veſper autumno, hyemi nox, ib. p. 245.

and

and ſlow; as he riſes every day nearly to the altitude he quitted the day before; and continues, very nearly, the ſame length of time above the horizon, the diminution of the quantity of heat, occaſioned by the decreaſe in number of his more perpendicular rays, bears no proportion to the abſolute quantity, ariſing from what has been communicated during his progreſs northwards, to his utmoſt altitude; and from the daily acceſſions imparted during his ſlow and gradual regreſs ſouthward. The ſum total of heat is augmented; the polar winds are mild; and as the ſun's abſence beneath the horizon is of ſhort duration, and ſcarcely leaves time ſufficient for the earth to cool, before he riſes again, the nights as well as days are hot. In ſhort, all times, mornings, evenings, and nights; and all places, whether in the ſhade, or expoſed to the open ſky; whether under a clouded or a ſplendid heaven, are permanently warm. The winds, and the vapors exhaled, are both impregnated with this warmth; and thus the whole atmoſphere ſtatedly preſerves a ſoft and ſafe temperature, and continues in this ſtate, for the moſt part, and unleſs the ſeaſon be more variable than ordinary, till after the ſun has got near to, or has paſſed the autumnal equinoctial point; when the earth

grows

grows cold again, by the evaporation of the heat it had received; by the want of freſh ſupplies; and by the rains, which, in general, fall more frequently and copiouſly as the ſummer declines.

FROM the different conditions, with which this part of the earth and the air are circumſtanced, after this time, *viz.* from the greater diſtance of the ſun, or greater obliquity of his rays; his ſhorter ſtay above the horizon; from the earth's increaſed coldneſs; and from the humidity, motion, and variableneſs of the winds; the temperature of the atmoſphere becomes quite changed; leſs ſafe to be truſted to; affects the body with chilling ſenſations; compels perſons to retreat frequently from the outward air to their houſes and fire-ſides; and brings them, ſooner or later, from their country retirements, to the warmer and more ſheltered ſituations of towns and cities.

IT is often to be remarked, that perſons upon their return from the country, at this ſeaſon of the year, (whether earlier or in the more advanced part of it) to this great metropolis; very ſoon after their arrival, find themſelves ſeized with colds, without having perceived the leaſt ſymptom of any

ſuch

ſuch complaint, while in the country; or without any alteration of weather, after coming to town; which they are apt the more to wonder at, as they take it for certain, that the air in general muſt be warmer here than it was there; both from the numberleſs buildings which incloſe it, and from the multitude of fires conſtantly kept up by the inhabitants: But this, although true, yet is, accidentally, the very cauſe of the complaint. The whole body of the atmoſphere, in town, is conſtantly in a ſtate of preternatural rarefaction; conſequently the cooler, and more condenſed air of the country, muſt be perpetually ruſhing in, as into a vacuum, from all ſides, and create an artificial wind: Moreover, the buildings, erected in all directions, are ſo many ſtops to the free currency of the air, which is reverberated and circulated through the ſtreets, lanes, and allies, and from courts, church-yards, and other wide openings; and hereby occaſion ſo many ſtreams and eddies of wind, which not only meet perſons without doors in almoſt every poſſible poſition, but alſo encounter them in the paſſages and ſtair caſes of their own houſes; and drive through every aperture of the chambers they reſide in; and this happens under the diſadvantageous circumſtance of the body's being more warmed, and perſpiration

ſpiration more increaſed by the greater poſitive warmth of the atmoſphere; which, until they are ſettled and accommodated to their changed ſituation, by ſome longer ſtay, naturally expoſe them to the very inconveniencies they complain of: To avoid which, all weakly perſons, or others ſubject to catch cold; and alſo young children, ſhould be uſed to practiſe every precaution mentioned, relative to ſuch accidents, upon their firſt eſſays to go or be carried abroad. They ſhould alſo be admoniſhed againſt frequenting raw, uninhabited rooms, or delaying on paſſages, or ſtair caſes; and children ſhould be reſtrained from playing about ſuch dangerous places, eſpecially in damp weather, or after the houſes have been waſhed; both which, from certain ſtated punctualities of cleanlineſs obſerved in this country, or to ſatisfy female nicety, frequently happen together, and give occaſion to *Hoarſeneſſes*, *Sore throats*, *Coughs* and *Fevers*.

It is very hard that the more orderly part of our ſpecies, ſhould be moſt of all expoſed to miſchiefs of this ſort, then, when they are in the way of their duty; and methinks it ſhould not a little import all thoſe, whoſe offices it may reſpectively concern, to conſider this matter, in relation to the waſhing of churches, and other places ſet

apart for divine worſhip; which is generally done, within a little more than twelve hours, before the meeting of the congregation. Some proper care to render all ſuch places more ſafe, by keeping them more free from that rawneſs and dampneſs, which muſt neceſſarily enſue from the preſent and long eſtabliſhed cuſtom, would ſurely juſtify the novelty of ſome change herein; not only as it would be more conſonant to good ſenſe, and to humanity; but alſo as it might be a means to leſſen, if not prevent, the many interruptions and diſturbances in the celebration of thoſe ſolemn ſervices, ariſing from the pulmonary weakneſſes; or other more recent diſorders of the trachea and bronchia, in various perſons, which, in the winter ſeaſon, more eſpecially, there is ſo much ground for others to complain of.

WHENEVER, in one or the other ſeaſon, the weather be rainy or moiſt, it is right to keep up a moderate fire in all our inhabited rooms; more eſpecially in the evening and night times; and where perſons are accuſtomed to employ themſelves, either in their ſtudies *, or counting houſes. It is alſo prudent to have a fire kindled in every

* Schn. lib. iv. p. 261, quantum ſtudia conferant ad Catarrhum, noverunt illi qui ſtudent.

room;

room, ſtatedly uſed for dining, retiring, or reſt, after it has been waſhed; as it prevents the damp vapors, which ariſe while it is drying, from flying up and bedewing the cieling; fixing in drops on the furniture, and trickling down the wainſcoting; or from hovering about the room, by abſorbing and directing their courſe up the chimney: Moreover, all ſuch rooms ſhould be thoroughly dry, before any perſon ventures to ſit, ſtand, and, above all, to ſleep in them: He will be more eſpecially liable to receive miſchief by it, when warmed, and put into a ſtate of increaſed perſpiration, by exerciſe of any kind; or after having been in a warm ſituation, either from the ſun or common fire; or when heated by any degree of intemperance from meats or wine. This laſt obſervation, leads me to enquire into the truth of the remark made by *Plato*, as mentioned, p. 5 *, *viz.* that luxury gave the firſt riſe to Catarrhs; which remark receives confirmation from a paſſage of *Celſus*, in the preface to his firſt book †.

* Vide Platon. de Republ. lib. iii. p. 622. Ed. Ficin.
† P. 2. See alſo Nonnus de re cibaria, p. 5.

CHAP. VI. SECT. II.

Of Luxury, as a prediſponent Cauſe of Colds.

LUXURIOUS tables, ſpread with an elegant variety of foods and drinks, tempt appetites beyond the neceſſity, or call of ſimple nature; and thus occaſion men to load their ſtomachs, which becomes the immediate cauſe of heat and crudities; and, if carried into a habit, of numerous diſeaſes. Hence it happens, that while the plain inhabitants of cots and villages *, who are accuſtomed to labour, and a ſimple diet, are ſtrong and healthy; thoſe who live in great towns and cities; who indulge themſelves in eaſe; who keep better tables, and gratify themſelves with frequent feaſting, and more taſteful delicacies, are, for the moſt part, weakly and ſickly †, and more eſpecially liable to Colds.

HOWEVER great the abvantages, or comforts may be, which ſuch an enlarged ſociety, as the building of great cities af-

* Qui corpus excercent, frugaliterque vivunt, a Catarrhis ſunt liberi. Et hoc idem eſt cauſa, cur agreſtis gentis homines, et omnes illi qui laborioſum vitæ genus cum frugalitate ſequuntur, in Catarrhos haud facile implicentur. Schn. lib. iii. part 2, ch. 8.

† Schn. lib. iv. p. 122—131.

fords;

fords; there are undoubtedly the threefold inconveniencies, of a confined and heated air; of a want of due exercise; and a multiplicity of diet, attending the living in such communities; but how this last mentioned circumstance gives rise to colds, is the point now to be considered.

The common effect of luxury is, preternaturally to fill and heat the body; with this difference, from the effect of excessive exercise, that it does not cause a proportioned discharge of the increased or rarefied fluids, as exercise does, by visible perspiration, sweat, or other evacuation.

Luxury in eating and drinking does probably increase the invisible perspiration, both within and from without the body; the preternatural heat and flushing of the skin, being, without doubt, in part, occasioned by the subtle hot vapors which steam from the viscera, and pervade the whole fabric. But the nature of these steams, and particularly the condition of the cutis and cuticle, which by means of full vessels are upon the stretch at this time, do not permit such a copious and free transit through the pores or excretory ducts, as answers to the increased fullness and distension of the vessels;

ſels; and as ſhould ſerve to eaſe the body of its load and oppreſſion.

THE proper effects of luxury are ſuch as follow, *viz.* a diſtenſion of the ſtomach and bowels; ariſing both from the quantity of the ingeſted foods, and from the flatus generated by digeſtion; and from hence, not only a ſtop to the free circulation through the veſſels of theſe parts, but alſo a compreſſion of the deſcending aorta; of the vena cava, and of the roots of the porta; by means of which, a preternatural quantity of blood is thrown into the parts above the diaphragm; while its projection on the inferior parts, and its return from thence, as well as from the parts above it, are intercepted: Hence the head is loaded, ſtupified, confuſed; the face is flushed; the præcordia are oppreſſed; the bowels inflated; and, through the impediments, put to an equal and free circulation, the limbs are rendered inert; and the whole machine feels burthened, benumbed, and is dragged on like a dead weight, with yawning, ſtretching, toil, and labour. Sometimes theſe effects accumulate to ſuch a pitch, as almoſt totally to ſuppreſs, and ſuffocate all the functions, vital, natural, and animal; nor are inſtances, ancient * or modern, want-

* Septimius Severus, and Zeno Iſauricus. See Patarol. Series, Aug. &c. See Boer. Aph. 1010, 3.

ing,

ing, where crapulas have occaſioned ſuch an immediate (and apparently total) ſtop to the circulation, as that the perſons have fallen down precipitately on the ground, ſenſeleſs, ſpeechleſs, motionleſs; without ſigns of breathing, or pulſation; with cold clammy drops on the ſuperficies; and, to all likelihood, irrecoverably apoplectic: in which caſe, ſometimes a ſpontaneous; ſometimes an excited vomiting, has quite recovered the patient; at other times, and much more frequently, a partial recovery has been all that could be obtained; and a paralytic affection of the powers, both of body and mind, has enſued, and laſted out the no long, though tedious remains of a very uncomfortable life.

The ſum of what has been ſaid, as it more particularly relates to our purpoſe, is this. Luxury creates an immediate plethora; an increaſed heat of the fluids; a degree of ſtagnation; an obſtruction to the natural ſecretions and excretions, and particularly to thoſe made by the ſkin; whoſe veſſels are put into an unnatural ſtretch; by which their excretory ducts are ſtraitened, and their orifices, in great meaſure, cloſed: Theſe circumſtances conſidered, will plainly ſhew us how Luxury contributes to colds:

For

For if perſons, after an exceſs in eating and drinking; and, in the circumſtances recited, of being filled, heated, and the like, ſhould come haſtily, or unguardedly, into the open cold air, the heated ſuperficies of the body, and the ſurfaces of the cavernous parts, will be chilled; the ſecretory and excretory outlets will be corrugated and cloſed; the perſpirable matter will be inſpiſſated and repelled; the blood in the capillaries will be coagulated; its regreſs by the veins impeded; the circulation will be obſtructed; the heart will labour in performing its vital office; and, ſhould they eſcape the proſternation before mentioned, by the ſuperiority of nature's forces, yet *Rigors*, *Coryzas*, and other ſpecies of defluxions; *inflammations*, pains and *Fevers*, muſt, ſome or all, enſue; more obſtinate, and much more dangerous, than any ariſing from the affections of cold air, in ordinary and leſs critical circumſtances; on which account, a ſtrict attention to the rules and cautions given in the preceding pages, becomes moſt neceſſary.

General OBSERVATION.

As a free and warm perſpiration, and a due tenuity of the perſpirable matter, are of the utmoſt conſequence to health and eaſe; when-

whenever any unforeſeen accidents occur, capable of diſturbing, or perverting this important part of the animal œconomy, no time ſhould be loſt in remedying the firſt and ſlighteſt beginnings of miſchief. The accidents I here refer to, beſides thoſe already mentioned*, are, lying in damp beds, or in raw new built houſes; being catched by rain, or thick dews, either on horſe-back, or on foot, or on the water; putting on damp linnen, or changing warmer garments for a more flimſy and airy dreſs; all of which, in their turns, are capable of producing, without immediate care to prevent them, the moſt pernicious effects of a ſtopped and inſpiſſated perſpiration. Therefore, when any thing of this kind happens, and more eſpecially, if the leaſt chill or uneaſineſs be afterwards perceived, the only ſafe precaution to ward off worſe impending evils, is to go inſtantly into a warm bed, in a dry, warm room; and either to practiſe a ſtrict abſtinence, or, if neceſſary, to drink ſome well warmed diluting liquor, ſuch as ſhall ſerve to raiſe a moderate ſweat, to be continued for ſome hours; or rather, until all uneaſy ſenſations, and feveriſh ſymptoms, are removed; then to dreſs in dry

* P. 82, 83.

warm clothing, and to keep houſe, until twenty-four hours, or more, ſhall ſhew that no longer confinement be neceſſary. This method would almoſt certainly prevent *Fevers*, which are extremely apt to kindle upon ſuch general checks to perſpiration: Or ſhould a fever be already begun, would prevent its continuance: For I will venture to lay it down as a maxim, which very ſeldom fails; that fevers from colds, ſo juſtly formidable when riveted by delay and multiplied obſtructions, are, in general, as eaſily got rid of, if treated upon their firſt onſets, in the plain ſimple way I have mentioned, as almoſt any diſorder whatever: Therefore care ſhould be taken to prevent a too officious adminiſtration of heating liquors and medicines, which only ſerve to irritate and inflame; but which are too commonly made uſe of on ſuch occaſions.

CHAP.

CHAP. VI. SECT. III.

Cautions, relating to the affections, reſulting from the natural and ſudden viciſſitudes of the Air and Atmoſphere.

THE cautions hitherto propoſed for obſervance, are ſuch, as will appear, chiefly, to reſpect thoſe *Colds* which reſult from factitious, or accidental diſproportions, between the temperature of the body, and that of the outward air, or other cold or damp ſubſtances, occaſioning an inſpiſſation of the perſpirable matter: But there remains to be mentioned another ſpecies of this diſorder; which does not ſo neceſſarily ſuppoſe any ſuch accidents, nor indeed an inſpiſſation of this matter, but rather a check to the freedom of its exhalation, whilſt ſufficiently ſubtile for that purpoſe; which ſpecies I know not how ſo properly to denominate, as by calling it a *Nervous Cold*; for as much as there is more immediate injury done by it, to the eaſy feeling of the body, and conſequently to the cuticular nerves, than there is to the main conſtituent parts, either fluid or ſolid: It happens, upon ſudden and remarkable viciſſitudes of the air and atmoſ-

phere, *viz.* when, from being ſtill and calm, they are put into a diſturbed ſtate of motion; when, after looſe clouds, and ſoft open weather, they are congealed, ſtiffened and acuminated by the ſudden irruption of a froſt; and alſo when their weight and preſſure become greatly augmented; the affections from which do not ſo immediately depend on any particular ſtate of the body, from previous accidents, as on the general nature of the cauſe itſelf, being conſidered as too violent to be borne with eaſe and tranquillity, by the natural forces of the conſtitution; and which will therefore require to be fenced off, by ſome artificial contrivance, in order to prevent ſuch uneaſy ſenſations; or to hinder them from ſettling into real and fixed illneſſes; which defences are only to be had, by a ſuitable accommodation of our clothing, to the exigencies of the variable winds and weather, experienced in this country.

THE uſes of the Barometer and Thermometer, in meaſuring the weight and warmth of the air; and their application to many entertaining and ſerviceable purpoſes, more eſpecially in the government of the vegetable creation, are too well known to need any particular mention here; however,

ever, the following obſervations, reſpecting animal bodies, founded on the diſcoveries, made by the help of theſe two excellent machines, may deſerve conſideration.

THE air being ſtill, or in motion, of itſelf makes no alteration in the ſwell of the thermometrical fluids, that is to ſay, in the poſitive temperature of the air; but it will, notwithſtanding, affect our bodies very differently, in the two caſes: Air, when ſtill all around us, may be mild, agreeable, and ſafe; but when the ſame air is formed into a wind, and beats on our bodies, it may be uncomfortable and chilling; and, by its frequent impulſe, equal in this caſe to an augmented quantity, will bear hard on the nervous papillæ, contract the cuticle, and check the evaporation of that very ſubtle effluvia, which, in the ordinary ſtate of the body, is, though unperceived, continually breathing from all the veſſels, viſcera, and intermediate ſpaces of the ſpungy body, through the minute ſuperficial pores; which effluvia being coerced, by the cauſe mentioned, will inſinuate itſelf among the teguments; wander here and there; irritate and convulſe the nervous fibrillæ; occaſion vague *Stitches* and *Pains*; and *flatulent Diſtenſions* of the cellular membrane. The beſt defence againſt theſe complaints,

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is a looſe upper garment; and the remedy, when they are acquired, is a warm room, or a warm bed; and if need be, aided by ſome gentle diaphoretic adminiſtration.

NEITHER does an increaſed weight of the air, which always raiſes the mercury in the Barometer, neceſſarily affect the Thermometer, or make any alteration in the poſitive quantity of heat in the atmoſphere; but it will, notwithſtanding, by its preſſure, have a very conſiderable effect on the organ of feeling, and change the ſtate of our bodies, from eaſy to diſagreeable ſenſations; and by the rigors it frequently occaſions, will operate in a manner ſimilar to that of an increaſe of the poſitive coldneſs of the atmoſphere, as our experience will often teſtify, in the brighteſt and hotteſt weather, when the wind is eaſterly, if we retire from the ſun's rays into the ſhade.

Dr. Mead * has computed the exceſs of the preſſure of the air on a human body, when the mercury riſes to 30 inches, from its preſſure, when ſtanding at 28 inches, to amount to 3060 pounds weight; and this difference may be ſtill greater, by how much lower the mercury may ſink than 28

* De imperio Solis ac Lunæ. p. 28.

inches

inches at one time, and riſe higher than 30 at another; which may be eſtimated, from what every now and then happens, to amount to another thouſand pounds weight: Every degree of variation on the ſcale of the barometer; that is every tenth part of an inch, will make a difference of 150 pounds weight on the ſuperficies of the body: A variation of two, three, or more degrees, in the ſituation of the mercury, is an almoſt daily occurrence, eſpecially in the more changeable ſeaſons of the year, which are thoſe from the equinoxes, to the mean diſtances, or nearly thereto, on both ſides, from the ſolſtices; ſo that for a great part of the year, the human body is perpetually liable to, and very frequently ſuffers, a ſudden difference of weight and preſſure, on its outward ſurface, amounting to, from three to 500 pounds weight, leſs or more: And ſuppoſing a column of air, of an inch diameter, to paſs down the aſpera arteria, at every renewed inſpiration, the lungs will be expoſed to receive a ſudden difference of immediate weight and preſſure, amounting to a pound or more each time; beſides what it will ſuffer from the different expanſions of the air, as more or leſs condenſed and weighty, by the natural heat of the lungs. Well compacted bodies, compoſed of firm elaſtic fibres, with warm

ſpiri-

ſpirituous blood, and a vigorous circulation, may accommodate themſelves to theſe changes, without any remarkable difference of ſenſation; but weak and valetudinary conſtitutions muſt feel them, and will ſhew their feeling too, by contracted countenances, and viſible perturbations; they will be more or leſs affected, in proportion to the ſuddenneſs and degree of theſe alterations combined; for when the changes happen ſlowly, the body will alſo accommodate itſelf, by ſlow and leſs perceived degrees, to the change; and ſtill leſs, if the alterations are ſmall: But with us theſe viciſſitudes are frequently great and ſudden; the mercury will ſometimes mount up an inch or more in leſs than twenty-four hours, and at others will ſink in proportion as ſuddenly: The laſt caſe will be productive of *Weakneſs* and *Low ſpirits*; the firſt will be attended with thoſe complaints which properly belong to my ſubject; for which reaſon I ſhall now give it a more particular conſideration.

An extraordinary height of the mercury in the barometer, may be owing to one or other of theſe two cauſes; either, firſt, to an accumulation of air, occaſioned by a ſtorm riſing in ſome diſtant place, and blowing in a direction towards, but ſtopping at,

or

or near thoſe places where the mercury appears to riſe; or, ſecondly, to a ſettled eaſterly wind, which always has this effect on it. The firſt cauſe is occaſional, of ſhort duration, and its influence leſs attended to; the laſt is what moſt frequently happens, is more permanent, and its conſequences more injurious. This wind blights the vegetable, and is more or leſs hurtful to all the tender part of the animal creation; it is the moſt piercing and diſtreſſing wind that blows, to valetudinary perſons: By its auſterity, it pinches the ſuperficies of the body, and, by its preſſure, contracts it within narrower dimenſions: It ſhuts up the pores, pens in the vapors, and irritates the nervous papillæ: It painfully diſtends the lungs, dries up their ſuperficies, and often cramps them.

Moreover, to preſerve the ballance, ſo neceſſary to our exiſtence, between the external and internal air; whenever the preſſure of the air, *ab extra*, is increaſed, the reſiſtance, *ab intra*, muſt be increaſed in proportion; and this will happen, from the increaſed denſity or concentration of the ſpring of the internal, conſequent upon the augmented preſſure of the outward air. This concentration of the internal air, will be neceſſarily followed (more eſpecially,

if the outward cauſe continues for any time, as eaſterly winds often do) by a concentration, or increaſed denſity of the maſs of humors; as the bulks of their component ſpherical particles are, *cæteris paribus*, greater or leſs, in proportion to the ſtate of the air incloſed within them, or included in their interſtices: And the ſame aggravated preſſure, will exert a repulſive force upon all the circulating humors on the ſuperficies, from head to foot; whoſe free courſe will be impeded, or ſtopped there, and the totality of the circulation will be retarded: Then the heart will labour, in propelling the condenſed, increaſed, and impeded columns of blood, through the pulmonary artery, and the aorta: The vigorous pulſation of the whole arterial ſyſtem will be deadned: The blood will aſcend in fuller ſtreams, through the near and large cavities of the carotids, to the head *; but there, as in every other part, will paſs ſluggiſhly, and difficultly, through the capillary ramifications, which, in the cortical part of the brain, are infinitely minute. From the circumſtances mentioned, the

* Frigida—pectori inimica ſunt—ſpiritus vitales et ſanguis ad cor repelluntur, indeque ad caput cum impetu tranſmittuntur—ſanguis congelatus eſt, tum is qui in aorta fuit, quam ille, qui in corde ſtabulatur, ex quo horrenda primum ſymptomata, deinde repentina mors exeunt. Sehn. lib. ix. p. 146.

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following diſorders, ſome or others, fewer, or more in number, are wont to enſue, *viz.* *Rigors*, *Numbneſs*; *ſpaſmodic Stitches*; *Cramps*, and *vagrant Pains*, often called *rheumatic*; *Palpitations*; *Oppreſſions about the præcordia*; *convulſive Spaſms of the diaphragm, and left orifice of the ſtomach, occaſioning intolerable pinchings felt in the pit of the ſtomach*; *a ſmall, oppreſſed*, or *fluttering Pulſe*; *Dejection of ſpirits*; *Dizzineſs*, or *Stupor of the head*; *Perturbations of the body*; of *the imagination, and temper*; *Night-mare*, or *confuſed and diſturbed Sleeps*; and ſometimes *Stagnation, internal Gangrene*, and *death*.

It may afford ſome comfort to valetudinary perſons, ſuffering under any of the foregoing diſorders, from the cauſe recited, to know, that, generally ſpeaking, they may be ſure of relief, when the wind changes, and the mercury ſubſides: The conditions of their ſolids and fluids will alter with the weather: Farther, if they will not deſpiſe the means, or think much of the trouble; they have it in their power, while ſuch oppreſſive weather laſts, to blunt the force of its impulſe, and to ſoften the ſeverity of the ſymptoms, which an unguarded weak body is liable to from it, *viz.* by an addition to their outward defences of clothing; ſuch as a ſupernume-

rary woollen waiſtcoat, and a looſe ſurtout; which have greater effects in this caſe, than is readily conceived; not forgetting the dimenſions and ſubſtance of the wig, or other coverings of the head; which ſhould have ſo much thickneſs and extent, as ſufficiently to intercept its chilling attacks upon the common ſenſory, and to cover the neck and ears from its inſults.

"IT ſhould ſeem a general rule, ſays an ingenious author *, "that *cæteris paribus*, "the greatneſs of the viciſſitudes of the "air, increaſes with the latitudes of the "places, as you go from the equator." The climate which we inhabit, joined to our ſituation as an iſland, expoſes us, perhaps, more to ſuch viciſſitudes, than any other nation hitherto known: We are obnoxious to all the changes of weather, which a great diſtance from the equator; and which ſea, continental, and polar, cold, icy winds can produce. "All the "parts of the world (ſays the ſame wri-"ter †) within the torrid zones, have that "advantage of the weather there being "much more uniform than with us. Their "air ſuffers much ſmaller changes, both "in the incumbent weight of the atmoſ-

* Dr. Martine's Eſſays, p. 306. † Martine, p. 104—5.

"phere,

" phere, and in the degrees of heat where-
" with it is warmed. He tells us, from
" Dr. *Halley*, that within the tropics, the
" variation in the height of the mercury,
" in the barometer, was very little; that
" in the iſle of Bourbon, in the latitude
" 22, the difference in the higheſt and
" loweſt afternoon heats, in a twelve-
" month's time, was but 15 diviſions;
" and that in Malacca, but 2 deg. from
" the equator, the weather was ſo tempe-
" rate and equable, that for ſeven months
" together, the ſpirits in the thermometer
" were never under 60, nor above 70."

WITH us the variation in the height of the mercury may be full three inches, and the difference between the higheſt and loweſt warmth between 70 and 80 diviſions, for I have known the ſpirits to ſink down near to the bulb itſelf *.

* On January 9, 1739-40, the ſpirits in my Thermometer, (which was of the ſame conſtruction with that which Dr. Martine calls the ſtandard one of the R. S. Eſſays, p. 226) ſunk down to 104: But Mr. Derham, in the Phil. Tr. ab. vol. iv. part 2, p. 116. mentions an account he received from Hall, in Saxony, a place nearly in the ſame latitude with London, of a deſcent of the ſpirits, in 1708, when it was *totus intra ſphæram.*

On July 2, 1749, the mercury in my Farenheit was up at 82, within doors; but in another, belonging to a friend, and kept in the open air, it was at 87. On July 14, 1757, the heat was very nearly equal, according to both our obſervations.

VERY

VERY great and ſudden exceſſes, both in the weight and coldneſs of the air, frequently happen together: The barometer will riſe to a great height, at the ſame time that the thermometer ſinks very low: This ſtate of air will be oftentimes accompanied with a fierce driving north-eaſt wind; the atmoſphere will be replete with an almoſt impenetrable fog, and bound up by a ſtiff, froſty congelation; the ſun's rays will be obſcured, and his diſk, if ſeen at all, will appear red like blood: This ferocious weather is yet more tolerable, than that which often ſucceeds to it; that is, when either it very ſlowly breaks away; or thaws and freezes again by fits; and when, by the partial reſolution of the froſt, the whole atmoſphere becomes loaded with damp icy ſpicula, hovering low in the air, near the earth; or falling in the form of diſſolving ſnow and ſleet: This is not an unfrequent caſe in our winter ſeaſons. This ſtate of the atmoſphere is the moſt piercing; the moſt dreadful and dangerous, to be either felt on the ſuperficies of the body, or to be breathed in by the reſpiratory paſſages, that can happen, eſpecially to weakly or valetudinary perſons: Indeed at ſuch times, common inſtinct, and the ſimpleſt dictates of rational nature, urge ſo ſtrongly, as to overcome the moſt ſtubborn prejudices; and

even

even force perſons of the moſt robuſt conſtitutions, to ſeek the ſhelter and defence of the moſt ſubſtantial and warm garments, which they can wrap themſelves up in. Now, what perſons of ſuch ſtrong conſtitutions, and under the power of prejudice againſt ſuch methods of defence, feel themſelves compelled to do, under ſuch very ſevere circumſtances; thoſe of a more tender frame ſhould practiſe, under circumſtances of a ſimilar nature, though leſs violent in degree, from a prudential care of themſelves, in proportion as their ſenſations are more exquiſite, more eaſily excited; and as they are more liable to ſuffer real injuries from them: For although, as well in the coldeſt, as in the moſt ſultry climates, the frame of ſome conſtitutions may be found connected, and tied together with ſuch ſtrength, and at the ſame time with ſuch an accurate and nicely adjuſted mechaniſm of all the parts, as to be accommodated, by an interchangeable relaxation and recovery of their ſpring, not only to each extreme of a climate, but alſo to all its ſudden viciſſitudes; theſe, however, are but very rare; the valetudinaries make much the greater number; and to theſe, more eſpecially, the intermediate diſtance between the extremes of a climate, or the middle temperature of the air, proves moſt

agree-

agreeable and ſalutary; nay, they ſcarcely ever feel themſelves at perfect eaſe, and in good ſpirits, but under this middle condition of the air *.

When the heat of the air greatly exceeds this middle temperature, both men and beaſts are fain to provide for themſelves againſt it, the beſt way they can, either as reaſon or as inſtinct dictates, *viz.* by laying aſide ſome part of their clothing; or by taking on a thinner ſort; or by wrapping themſelves over in ſuch as the ſun's ſcorching rays cannot penetrate; or by withdrawing themſelves from them, to ſhades, coverts, and waters. In very cold countries, nature has provided the beaſts with ſhaggy, thick, warm coverings: Some of the bird kind ſhift their countries in the different ſeaſons, in order to find a temperate climate: The rational ſpecies keep cloſe to their houſes, huts, and ſtoves; and are glad to borrow furs from the beaſts, to wrap themſelves all over in; or, in want of theſe, to put on others, the thickeſt garments they can procure. In all countries, but our own, when the cold is ſevere for that climate, nature's dictates are obeyed, by a ſuitable proviſion of fires and

* Martine, p. 301.

cloth-

clothing, as the proper fence againſt miſchiefs: The *French* and *Italians* have their under waiſtcoats *, and the *Dutch* are well known to multiply them, occaſionally, as their country, like ours, is ſubject to thick fogs, and cold damp weather. What ſufficient reaſon, therefore, can be given, why the *Engliſh*, of all nations, ſhould be the moſt averſe to this temporary and ſalutary alteration of their clothing, *&c.* and be ſo ſuperior, as they often are, to all admonitions, from inſtinct; from the dictates of reaſonable nature; from prudence; neceſſity; and from the example of other nations? I am fully perſuaded, that a little more conformity, in this particular, would

* *Auguſtus Cæſar* was a valetudinary all his life: He was ſubject to take Colds; and unable to endure either extreme of cold or heat: To defend himſelf againſt the ſeverities of the winter weather; and to ward off the diſorders he was peculiarly liable to, which are mentioned to be *Coryzas*, *Hoarſeneſſes*, *Coughs*, *Inflations*, and the like; he found it neceſſary, while the winter ſeaſon laſted, to wear, under a thick coat, four waiſtcoats, beſides an under waiſtcoat, and a ſtomacher under that. He practiſed alſo great temperance in eating and drinking; ſo far, ſometimes, as to forbear touching any of the varieties at a banquet, and to ſup by himſelf, on ſome one ſimple diſh, after his gueſts were departed: Nay, as he himſelf pleaſantly relates it, in a letter to *Tiberius*, he kept his faſts more ſtrictly than a Jew. By theſe remarkable inſtances of his care and prudence, notwithſtanding the many infirmities of his conſtitution, he held out chearfully to the ſeventy-ſixth year of his age. See Sueton. in Vit. Ed. Pitiſc. Ch. lxxvi. lxxxi. c. See alſo Ferrar. de re veſt. Part. 1. p. 3, 171, 172, 175. Part 2. p. 163, de vocibus *Toga*, *Tunica*, *Subucula*, *Thorace*.

be a means, of rendering the lives of many perſons, much more comfortable than they are; and would prevent many uneaſineſſes, and diſeaſes they are liable to ſuffer from the neglect of it, eſpecially in cold ſeaſons and weather; by which neglect they alſo lay a foundation for *fixed Rheumatiſms*; *Stiffneſſes*; *Lameneſſes*; and *other obſtinate diſorders*, for life; and particularly ſuch as are of the nervoſe kind. And I am the more warranted to preſs ſuch a conformity, as I have known many perſons ſubject to *Rheumatic pains*; to *nervoſe and flatulent Strictures* and *Diſtenſions*, *Stitches* and *Cramps*, in the winter ſeaſon, either entirely freed from them, or greatly relieved, by being perſuaded into it. But there is one caution, in relation to this doctrine, which ſhould be religiouſly obſerved, in order to ſecure its good effects; and that is, never ſuddenly to lay by any ſuch additional garments; either thoſe upper ones, uſed occaſionally, more eſpecially while the body is in a warmed ſtate; or ſuch as are taken on, to be habitually worn throughout a ſeaſon *; for in either of theſe caſes, what was deſigned

* Neque eſt aliud, quod plus defendit corpora contra vim cauſarum externarum, quam ſi quis verno tempore *tarde minuat* veſtimenta hyberna, rurſumque *cito* augeat æſtivas veſtes autumnali tempore. Boerh. Inſtit. p. 472.

as a remedy, may prove the cauſe of a diſeaſe.

I SHALL cloſe this account, with an obſervation relating to the natives of our Weſt India colonies. What Dr. *Martine* has remarked, ſpeaking of vegetables, *viz.* "That natives of warm countries will be "chilled to death, if not artfully protect-"ed from the injuries of our ſevere wea-"ther †", is not only juſt with regard to theſe, but will equally hold good in reſpect to the animal creation and the human ſpecies; for I have ſeen ſeveral of the natives of theſe iſland colonies, who came from that hot part of the world, to this cold country, on the advance, or ſometimes in the decline of autumn, deſtroyed by this unſeaſonable change of climate. They felt themſelves chilled at firſt; by degrees became more and more benumbed and inert; loſt all their vivacity, and almoſt all ſenſation; then grew ſoporoſe and motionleſs; at laſt fell into irrecoverable ſtupors, and died of a general mortification: In ſhort, it may be ſaid, that they were truly blighted and periſhed like a tender flower.

† Martine, p. 298.

FINIS.

ERRATA.

P. 2. l. 8. r. of a full. P. 9. l. 4. r. names. P. 21. l. 24. d. whatever. P. 22. l. 3. r. by the ſtrict. L. 26. after *Sanctorius*, r. and are ſubjected to manifold accidents never thought of by him. P. 24. l. 18. r. dependent. P. 27. l. 18. r. the veſſels and ſubſtances. P. 33. l. 7. r. vena Portæ. P. 41. l. 20. r. dependent. P. 44. l. 15. r. off. P. 61. l. 4. r. ſemi-lunar. P. 72. l. 20. r. reſilient. P. 73. l. 26. d. the. P. 102. l. 11. r. portæ. P. 109. l. 4. for machines, r, inſtruments.